The OIL WEEKLY

10¢ A COPY

Exclusively Devoted To The Production and Transportation of Oil and Gas

Engineering News Statistics

November 29, 1929 Volume 55. No. 11

AMONG CHAMPIONS

LEG STRENGTH TELLS

THE Moore Champion DERRICK

Minimize your "breather losses"—
cut paint maintenance costs

· · with this perfected paint for tanks

Du Pont Aluminum Paint possesses remarkable heat- and light-reflecting qualities—gives durable brilliance and long-lasting protection for metal

THE relatively high value of aluminum paint in preventing volatile losses, combined with its durability, has led to widespread use of this type of paint for oil tanks and tank cars.

Today, du Pont offers the Petroleum Industry aluminum paint systems specifically designed to meet the adverse conditions of oil-field use.

Du Pont Aluminum Paint gives high heat- and light-reflecting brilliance that means maximum efficiency in the storage of oil, *throughout the life of the paint coat.*

Due to its unusual resistance to the action of sunlight, moisture and gases, du Pont Aluminum Paint has shown, in both field and laboratory test, a durability 20% to 50% greater than that of most white paints. It affords substantial economies in paint up-keep.

Easy to apply; very stable in leafing efficiency, brilliance and suspension and highly satisfactory in hiding the primary coat—du Pont Aluminum Paint has introduced new standards of paint efficiency and economy for tank cars and tank storage in the Petroleum Industry.

Full information on du Pont Aluminum Paint and other du Pont products designed especially for the Petroleum Industry will be sent on request. If your problem requires special study, we will be glad to send a du Pont technical representative to work with you.

DU PONT

E. I. DU PONT DE NEMOURS & CO., ***Incorporated***

Petroleum Sales Department

INDEPENDENCE SQUARE PHILADELPHIA, PA.

Chicago, Ill. **San Francisco, Cal.**

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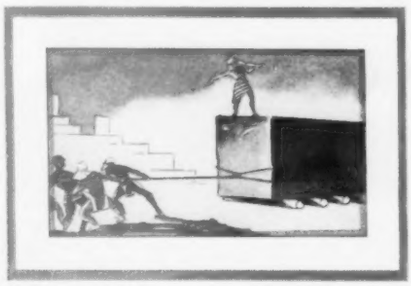
CORRECT ENGINEERING

Insures
EFFICIENT
Use of
POWER
in the GASO Figure 1508 Pump

LUBRICATION

A massive ocean liner is easily moved by a small tug because it floats on a sea of liquid. All moving parts in the Gaso Fig. 1508 Pump move easily because each runs in a flood of clean oil.



BEARINGS

Long ago men learned to move heavy loads on rollers. Today's best engineering practice is followed in this pump—loads of main and pinion bearings are carried on Timken Tapered Roller Bearings.

The most important fixed cost element in the operation of pumps is the amount of power consumed.

In the Gaso Figure 1508 Power Pump, correct engineering provides for the utmost efficiency . . . . thus reducing the power cost and increasing the operating profits of its users.

GEARS

Horses pull steadily by keeping some of their feet always on the ground. The continuous Tooth Herringbone Gears in this pump transmit power smoothly and with 98.9 to 99.4% efficiency.

PARTS DESIGN

From the arches developed by the ancients to the H-Column steel used by modern builders, every principle of scientific design is followed in building this pump—to the end that reliability of performance is insured by the reliability of each part.

GASO PUMP & BURNER MFG. COMPANY
Tulsa, Oklahoma
210 Petroleum Bldg., Ft. Worth, Texas
535 Fifth Avenue, New York, N. Y.

Fig. 1508, Interchangeable Liner type Gaso Pump has capacities varying from 63 bbls. per hour at 800 lbs. pressure to 250 bbls. at 250 lbs. Can be arranged for belt or "V" rope drive, direct connected to engine through flexible coupling, or for motor drive through silent chain or reduction gears.

GASO PUMPS

for every oil industry need

DONOVAN BOILERS

are Consistently Good

Chosen for their Design and Construction

WHEN QUALITY IS CONSIDERED

A. S. M. E. Code plus throughout. This means first, a minimum factor of safety of five.

Materials must be of the best. Every piece must have stood satisfactory physical tests and be of proper chemical analysis.

Design must be entirely safe and construction carefully checked. Even small details are subject to rigid inspection.

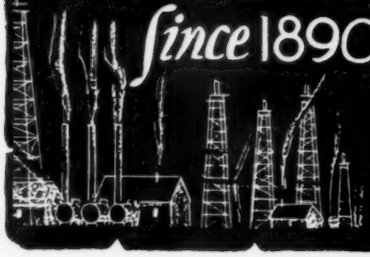
Workmanship must be of high grade. This, too, is subject to inspection.

Close inspection goes on throughout the course of construction. Anything defective is rejected at once.

Upon completion, the boiler is subjected to a hydrostatic test of 150% of its working pressure. This is done in the presence of a competent inspector who is in the employ of a state or an insurance company, and in no way connected with the manufacturer. Unless the boiler is perfectly tight, correctly designed and built, it cannot be stamped with the code symbol.

All this is done in addition to the care we exercise ourselves to see that DONOVANS are always just right.

Quality BOILERS *Since* 1890



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GREAT NORTHERN TOOL & SUPPLY CO.

MIDLAND IRON WORKS

"BJ"
WILSON
ROTARY
TONGS
will make your drilling crews click . . . . and *oh boy* how they help speed up the work!
Oil Tool Division of
BYRON JACKSON CO.
2150 East Slauson Avenue,
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Houston, Texas, 1915 Post-Dispatch Bldg.
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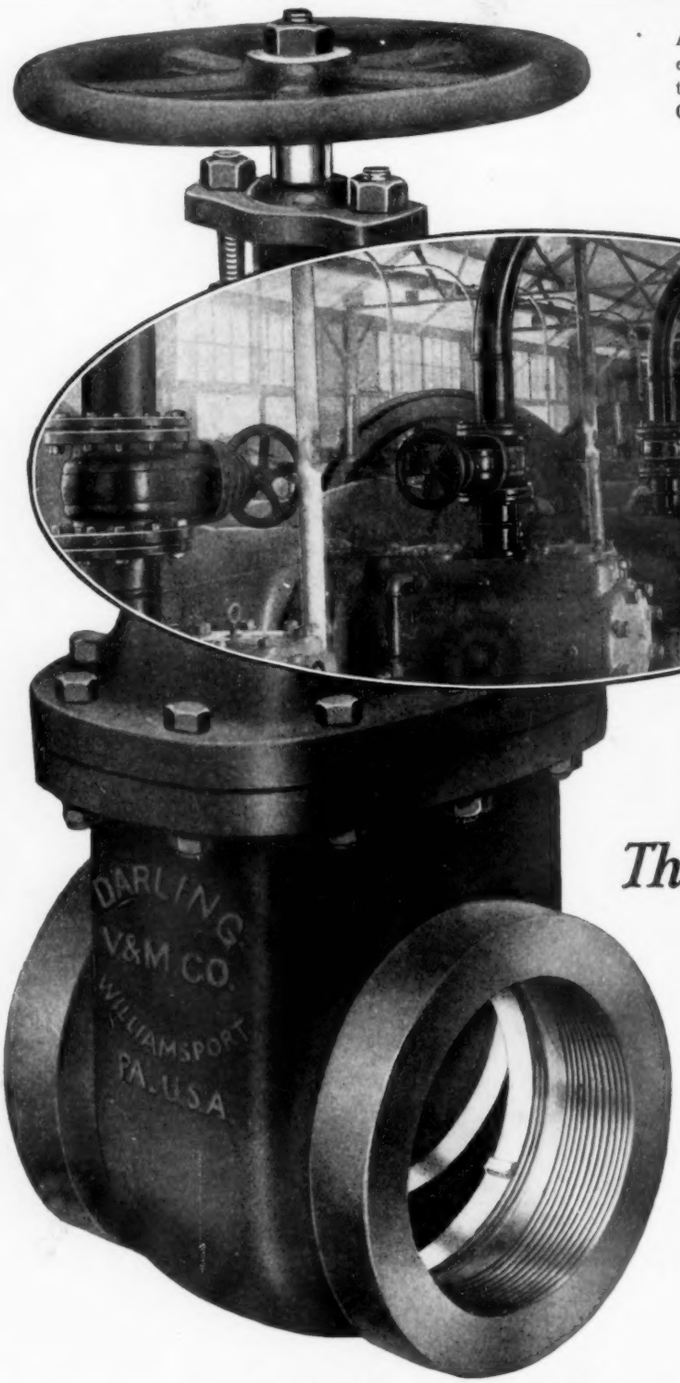

A Battery of Compressors, equipped with Darling Valves, in the plant of the Southern Counties Gas Company, Ventura, California.

Choose the Right Valve- Then Standardize!

Oil men who have figured the economy of Darling long lived Valves over a period of years are of the opinion that Darlings save most and serve best.

If valves have been your problem write today for catalogue and details of construction.

DARLING VALVE & MANUFACTURING COMPANY
WILLIAMSPORT, PA.

NEW YORK — Frick-Reid Supply Corp.
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Foreign Sales Mgr., H. M. Hein, Room 1405 152 West 42nd St., New York, N. Y.

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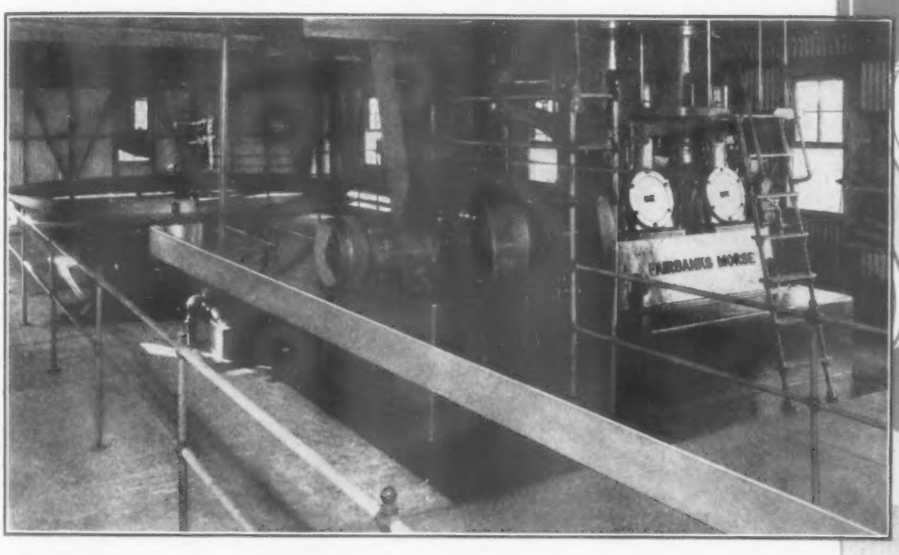
DARLING
GATE VALVES

READ HOW
This Oil Company Saves Their Power Dollars by using a
FAIRBANKS-MORSE
120 H. P. Type Y Style VA
VERTICAL DIESEL



THIS engine is operating 23- 1400 ft. wells on a band wheel power and is also driving a 35 KVA alternator for treating the oil. It is installed with 2- 42″ Eclipse cut-off couplings for Diesel or steam engine drive to the jack shaft.

The power company in this district sells current at 1-1/8¢ per kilowatt-hour without maximum demand charge, but still this operator has found that this engine operating continuously with a fuel consumption of 60 barrels fuel per month, 35 gallons of lubricating oil per month and repair cost of less than $1.00 per horse power per year, shows a very decided saving over the use of purchased power.

"If Continental Sells It . . . There Is No Better"

THE CONTINENTAL SUPPLY COMPANY
General Offices: ST. LOUIS. *Export Offices:* 74 Trinity Court, New York
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The Continental Supply Company, Ltd.
224 Traders Building, Calgary, Alberta, Canada

CONTINENTAL

J-567

The STORY is told at the top of the hole
After all the time and toil is summed up in a huge production investment, an unerringly accurate bookkeeper that will constantly record the story from the hole's top through each phase of gas handling, should be given employment.
For this job you can rely on the faithful Metric system of records, consisting simply of a Westcott Orifice Meter and a 24-hour Metric chart. With this combination to take care of your measurement, you can know each day's story is accurate.
In practically every field, measuring service Metric Orifice Meters are the most used means of getting the story of gas transmission told correctly from beginning to end.
It's a very simple matter to keep yourself up-to-date on the latest developments in the science of measuring gas by Orifice Meters. Bulletin No. 123 will give you this service in a brief and interesting way. Let us send you the valuable information on measurement by Orifice which this little book contains.
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Faster Drilling!

Straighter Hole!

Better Cores!

More Efficient Reaming!

CONTINUAL improvement to meet the changing conditions and requirements of oil well drilling operations enables H. C. Smith *Quality* Tools to hang up outstanding performance records almost every week. The illustrations here show some of the most recent developments of the H. C. Smith plant.

The new H. C. Smith Type "C" Drilling Bit with Roller Reamer Body. Makes straight hole fast. Eliminates reaming down to get new bit on bottom. A big advance in drilling bits. Can be run with side reamer or plain body.

H. C. Smith Type "C" Coring Outfit: Drop-forged steel. Renewable cutterheads. Recovers perfect cores in any formation a disc or fishtail bit will penetrate.

H. C. Smith Type "CI" Underreamer: An underreamer that won't stick in the hole. Hydraulic control insures expansion of roller cutters at any desired point in the hole.

H. C. SMITH MANUFACTURING CO., Inc.
Los Nietos, California

Branch Offices and Warehouses:
Bakersfield, Calif. Ventura, Calif.

Cable Address: "Smithco, Whittier"
Oil Well Supply Co., *Exclusive Sales Distributors*, outside of California, For H. C. Smith coring equipment and demountable drilling bits.

H.C. SMITH *Quality* **DRILLING TOOLS**

In the Bowlegs field you'll find this Genuine Reading Puddled Wrought Iron Tubing

The Proving Grounds—

Seminole
Gulf Coast
West Texas
Eldorado, Kansas

Where corrosive conditions are most severe, Reading Galvanized 5-Point Pipe has proved its superior lasting power—its ability to stand up without a failure in the fields that mean swift death to ordinary pipe.

There are two reasons for this remarkable endurance. First, Reading 5-Point Pipe is Genuine Puddled Wrought Iron—countless barriers of rust-proof silicious slag, puddled into the pure metal, stop the gnawing teeth of corrosion. Second, galvanizing adheres to Reading 5-Point Pipe more thickly than to any other ferrous pipe material. The galvanizing actually becomes an integral part of the pipe.

Reading 5-Point Pipe is made in accordance with A. P. I. specifications. Be sure that you get it.

READING IRON COMPANY, Reading, Pennsylvania

Atlanta · Baltimore · Cleveland · New York · Philadelphia
Boston · Cincinnati · St. Louis · Chicago · New Orleans
Buffalo · Houston · Tulsa · Seattle · San Francisco
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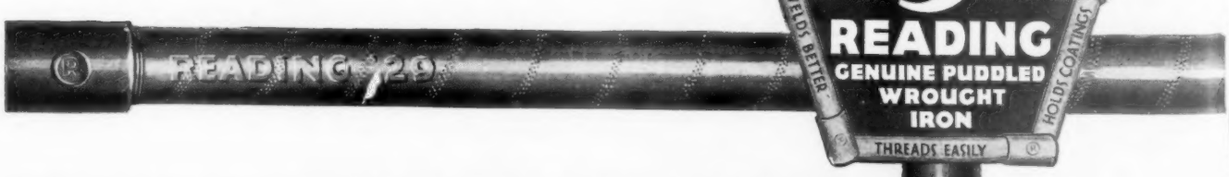
As an added improvement all Reading Galvanized Couplings for Reading 5-Point Tubing are now furnished with galvanized threads.

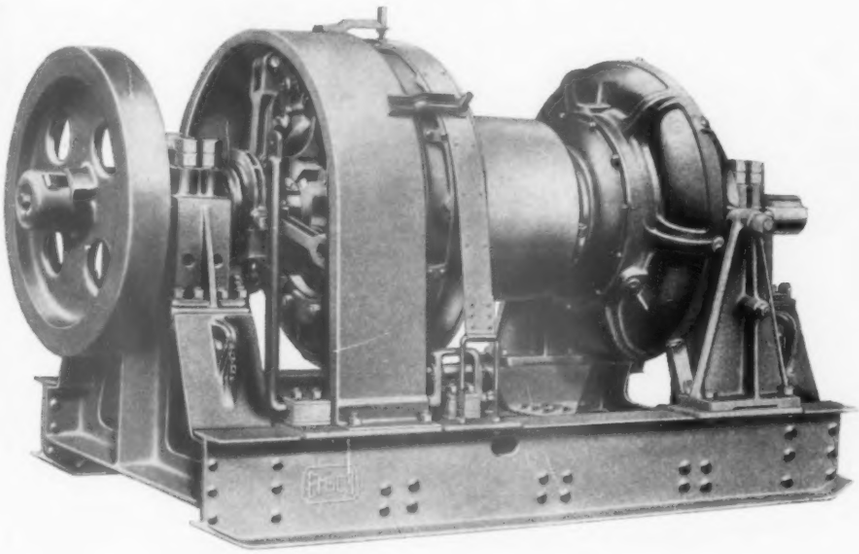
Reading pipe distributed by: Frick-Reid Supply Corp., Bradford Supply Co., Republic Supply Co., Superior Tube Co., Reading Iron Co. of Texas.



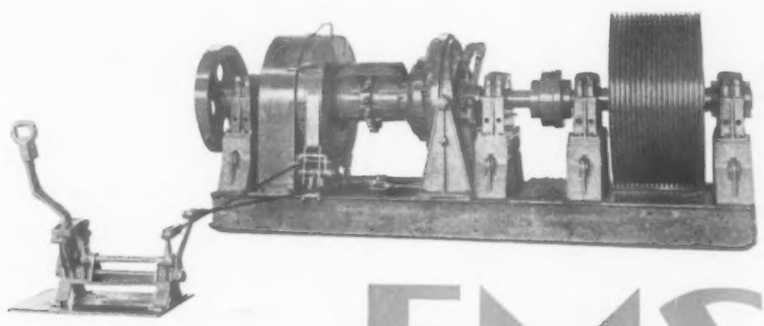
GENUINE PUDDLED WROUGHT IRON
READING PIPE
DIAMETERS FROM ⅛ INCH TO 20 INCHES

FOR HEAVIEST DRILLING

Rotary or Cable Tool



The installation shown below is the Type FA and is used with a 300 H. P. oil field gas engine. This unit is similar to the Type F but embodies multiple belt pulley with outboard bearings, extra long skid frame and unitary brake and clutch control lever as shown.



300 horsepower

EMSCO

REVERSE *and* FRICTION CLUTCH

Patent Pending

Type F

Transmits 300 H. P. at 220 R. P. M. Double disc type forward speed clutch. Single disc reverse speed clutch. Band type brake for control when in neutral. Shaft rotates on heavy roller bearings, mounted in self-aligning boxes. Sprocket and pulley assembly rotates on long roller bearings. Pinions and gears cut from solid steel forgings.

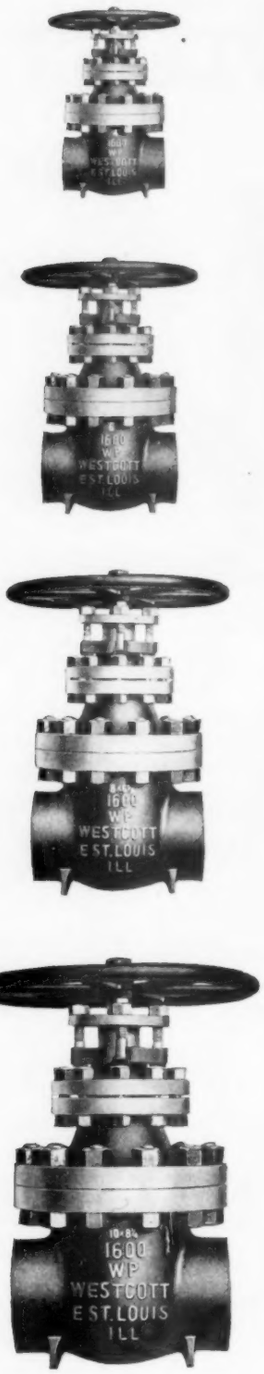
For heavy duty multicylinder oil field power units.

All Emsco and D+B Products (Except Derricks) Sold Exclusively in Mid-Continent Fields by The Continental Supply Company

EMSCO STEEL EQUIPPED WELLS ARE SAFE

ALL STEEL
Flow Line *and* Drilling Gate Valves

WESTCOTT VALVES



EVERY Westcott Valve is tested to double working pressure. All sizes of these valves are made in the following test pressures:

500 pounds
1,000 pounds
1,600 pounds
2,500 pounds
3,200 pounds
6,000 pounds

For working pressures divide by two.

WESTCOTT VALVES

Manufactured by the WESTCOTT VALVE COMPANY, East St. Louis, Ill.

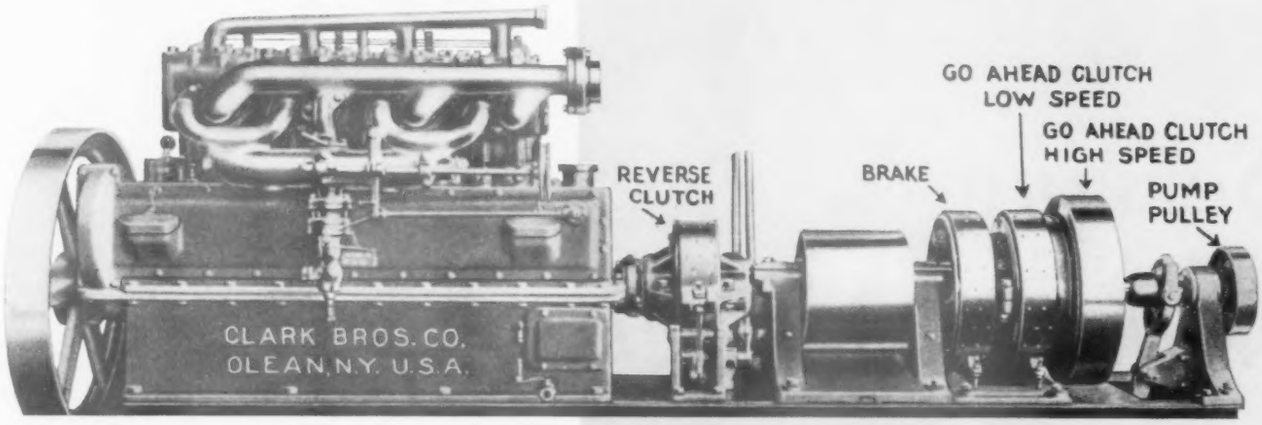
Manufacturers of products for the Oil and Gas Industries exclusively. Full stocks carried in East St. Louis with additional stocks carried at over seventy points in the Oil Country.

W-1

A Great Drilling Engine

because it has

A GREAT CLUTCH



Dependable performance and satisfactory service in a drilling engine unit depend so largely upon the clutch that every operator should get acquainted with the CLARK Type G Two-Speed Drilling Engine Clutch. Low speed gears are equipped with roller bearings. All reverse drum and pedestal bearings have removeable liners. Clutch and brake bands are outside, radiating friction heat directly, and are instantly inspected and easily adjusted. All side strain is removed from the engine crankshaft. Detailed data on request.

Compressors and Gas Engines

Ask for complete information on CLARK Direct Gas Engine Driven Compressors—95 to 400 H.P. — CLARK Generator Units — or CLARK 40 H. P. Pumping Engine and Compressor Unit.

CLARK BROS. COMPANY, Olean, N. Y.

Export Offices: 150 Broadway, New York City

Warehouses: Tulsa, Okla.; McCamey and Sweetwater, Texas; Artesia, N. M.

California: Smith, Booth, Usher Company 228 S. Central Ave., Los Angeles

Mid-Continent Sales Offices: Tulsa and Fort Worth

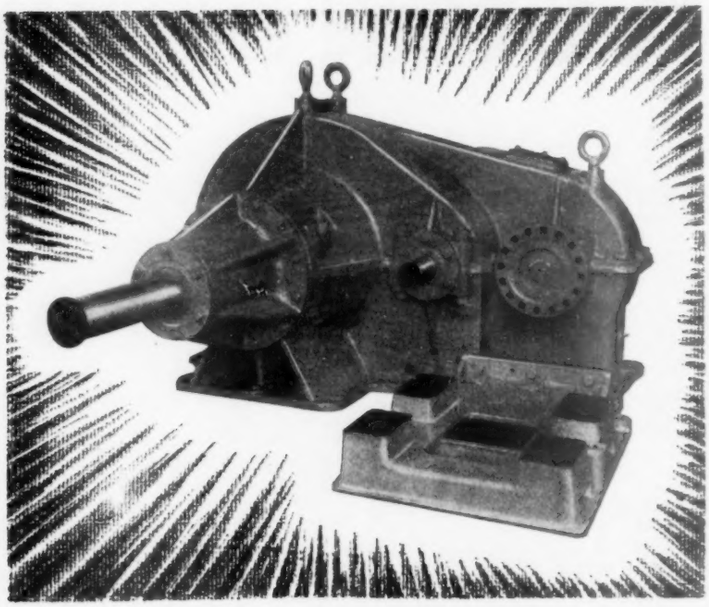
CLARK

REASONS

Why Westinghouse-Nuttall Gears Improve Electrical Pumping

No. 5

A double reduction unit, showing the motor bedplate and extended shafts for applying sprockets for hoist drives.



Serving without Servicing

ONCE installed, Westinghouse-Nuttall gear drives for pumping service require practically no service or repair—just an occasional replenishment of the lubricant within the totally enclosed case. There are no belts or chains with which to contend.

Westinghouse-Nuttall units are designed especially for the oil fields, by engineers who have a full knowledge of the requirements to be met. They are not merely standard units adaptable to oil field service.

During the six years in which scores of these units have been in production service, not a single gear or pinion has failed.

Shutdown-time thus is minimized and low-cost production is assured.

Detailed information about Westinghouse-Nuttall reduction gear units may be obtained from any branch of the Oil Well Supply Company, located in all oil fields, or from any Westinghouse sales office.

Numerous well-equipped and efficiently-manned Service Shops throughout the country assure prompt Service to the purchasers of Westinghouse products.

WESTINGHOUSE ELECTRIC & MFG. COMPANY
NUTTALL WORKS PITTSBURGH, PA.

SALES OFFICES AND SERVICE SHOPS IN ALL PRINCIPAL CITIES OF THE UNITED STATES

Westinghouse

T 30899

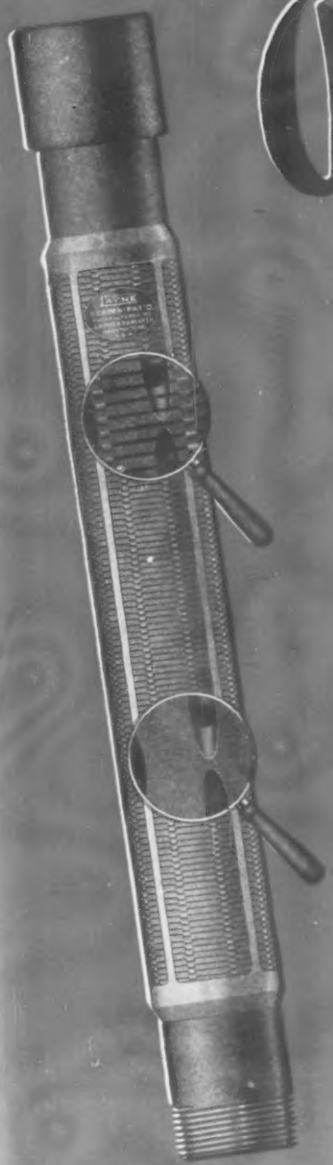
Products for the Oil Industry include . .

Arc-welders
Automatic Electric Babbitt Pots
Capacitors
Change House Heaters
Circuit-breakers
Floodlighting Equipment
Gears
Insulating Materials
Mazda Lamps
Motor Control
Panelboards
Protected-type Equipment
Rig Lighters
Safety Switches
Speed Reducers
Transformers
Turbines
Vapor-proof Ltg. Fixtures

THE LAYNE

Greater Production

MILLED GROOVE OIL WELL SCREEN



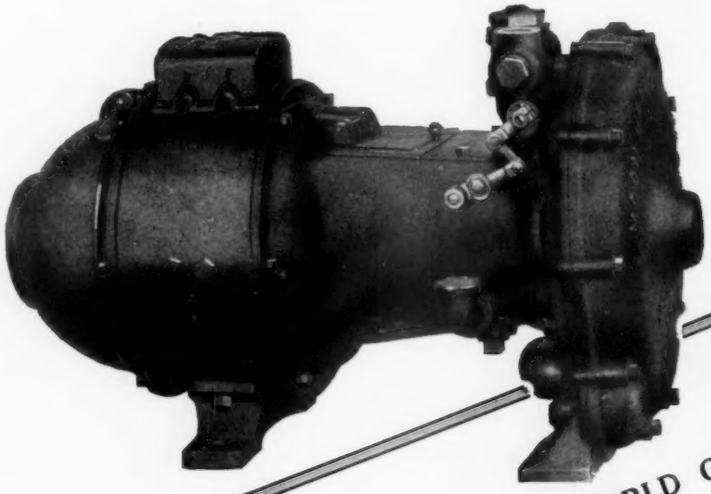
is Oil Industry's latest, exclusive and most practical invention & reduces operating costs to the minimum! Install now ~ instead of later

The Layne & Bowler Co.

Houston LAYNE Texas

Increases Production

A QUARTER CENTURY OF EXPERIENCE AND DEVELOPMENT



DERRICKS THE WORLD OVER R
are lighted by
MOON TURBO GENERATORS

The overwhelming success of Moon Turbo Generators is easily explained. They embody the most necessary essential of all lighting equipment—RELIABILITY.

The one great problem which has always confronted the oil man is DEPENDABLE LIGHT at night when a breakdown can mean personal injuries and drilling delay.

Moon Lighting Equipment found in every field today is the result of twenty years of engineering research. It is constructed with the idea that it "must not fail" at any time. This has necessitated that quality and endurance be built in.

All working parts such as the governor and ball bearings operate in a vapor of oil in a small sealed chamber separate from the steam head. The armature and fields can be removed and replaced in twenty minutes simply by removing 2 nuts and 6 screw caps.

There are few parts to adjust or disturb. All Moon equipment is constructed along the lines of simplicity so that there may never be costly delays. Put Moon Generators on your job and your mind is free of lighting worries.

There is a Moon Generator of the proper type and size for your work. WRITE TODAY for information and prices.

Republic Supply Company

OIL AND GAS WELL SUPPLIES
Cable and Rotary Tools

GENERAL OFFICES: HOUSTON, TEXAS

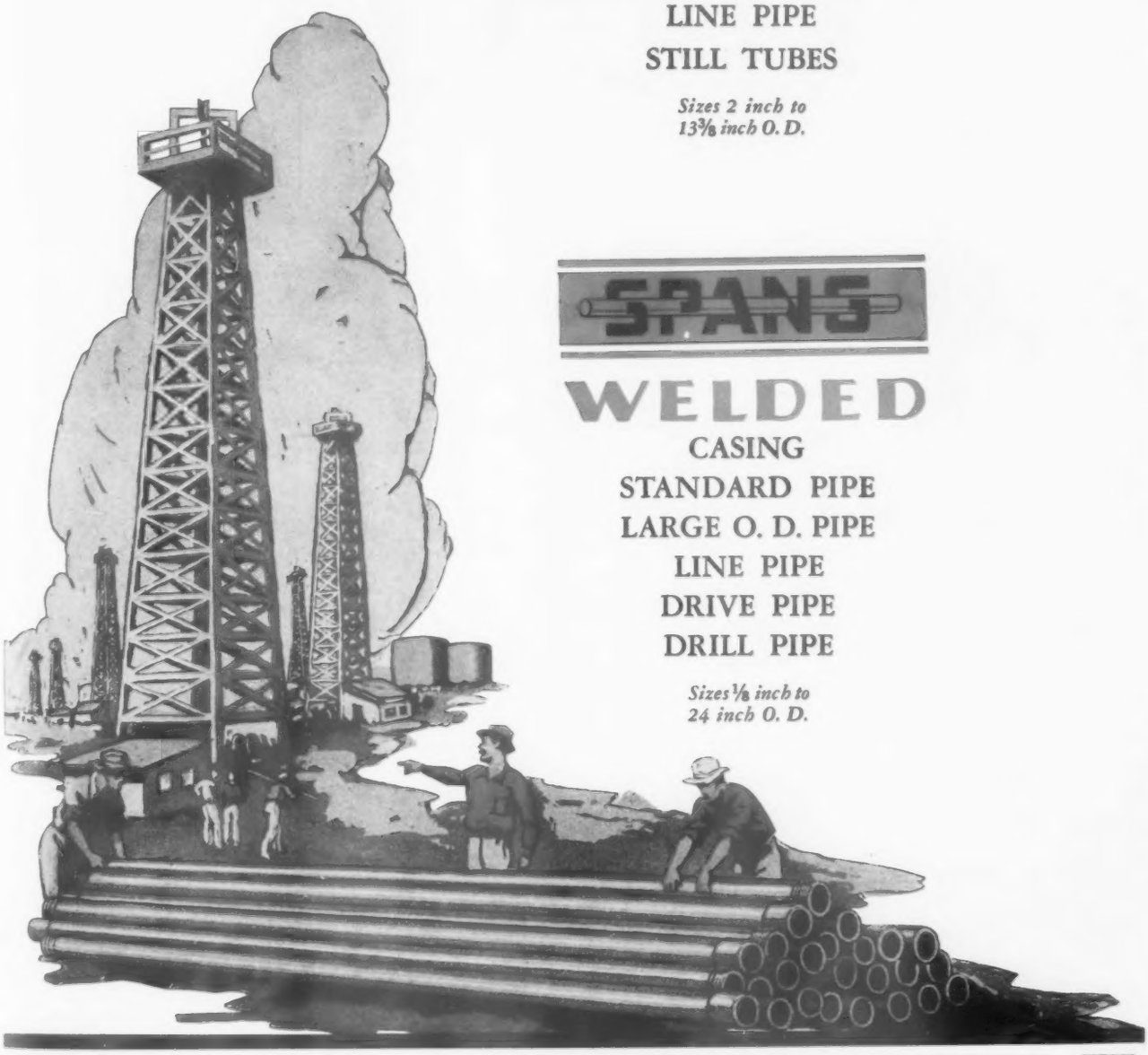
STANDARD

SEAMLESS

CASING
TUBING
DRILL PIPE
(Regular and Heat Treated)
LINE PIPE
STILL TUBES

Sizes 2 inch to 13⅜ inch O. D.

Since 1828



SPANG

WELDED

CASING
STANDARD PIPE
LARGE O. D. PIPE
LINE PIPE
DRIVE PIPE
DRILL PIPE

Sizes ⅛ inch to 24 inch O. D.

SPANG, CHALFANT & CO., INC.

General Offices: **CLARK BUILDING, PITTSBURGH, PA.**

Sales Offices: CHICAGO, ILL. NEW YORK, N. Y. ST. LOUIS, MO. PITTSBURGH, PA. TULSA, OKLA. LOS ANGELES, CAL.
Welded Mills: ETNA, PENNA. SHARPSBURG, PENNA. ***Seamless Mills:*** AMBRIDGE, PENNA.

SKILLED SUPERVISION GUARANTEES THE QUALITY OF GULF PRODUCTS

COASTAL AND PARAFFINE CRUDES
GASOLINE — LUBRICATING OILS
NAPHTHA — GAS — OILS
WAX — PETROLEUM COKE
CYLINDER—ENGINE—CORDAGE

GULF REFINING COMPANY

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Savannah, aG.
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Port Arthur, Texas
Galveston, Texas

105 CORES TAKEN
BETWEEN 4196' and 5226' . . . .
82% RECOVERY. . . . ONE HOUR
THIRTY FIVE MINUTES AVERAGE
TIME

REED ROTARY DRILLING TOOLS

4 CORES FROM BELOW 7000 FEET IN ONE TOUR

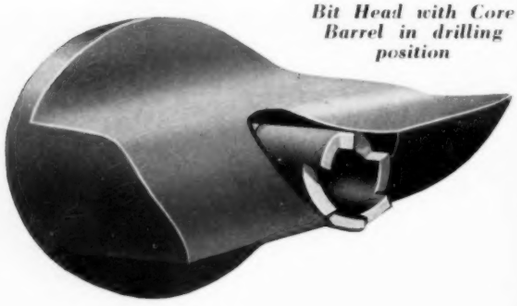
Reed's Barrett-Robishaw Combination Drilling-Coring Bit is the tool making the records shown on these pages. Thousands of cores have been taken with this tool under varying conditions and circumstances and everywhere with uniformly good results.

The bit is of the fish tail type forged from a special analysis Vanadium Alloy steel and having its cutting and reaming edges faced with Reedite, a hard surfacing material of almost diamond-like hardness.

This bit is so constructed that regardless of time, depth or circumstances, if a core of formation is desired it is only necessary to disconnect the grief stem or Kelly joint and drop in through the drill pipe the core barrel assembly.

This assembly is so manufactured that it will readily and easily find its way down through ordinary drill pipe and tool joints into the special collar and through the bit.

When the coring assembly of Reed's Barrett-Robishaw Drilling-Coring Bit is in position the core head projects through the bit and acts not only as a pilot for the bit but assures a clean uncontaminated core from unmolested formation.



Bit Head with Core Barrel in drilling position

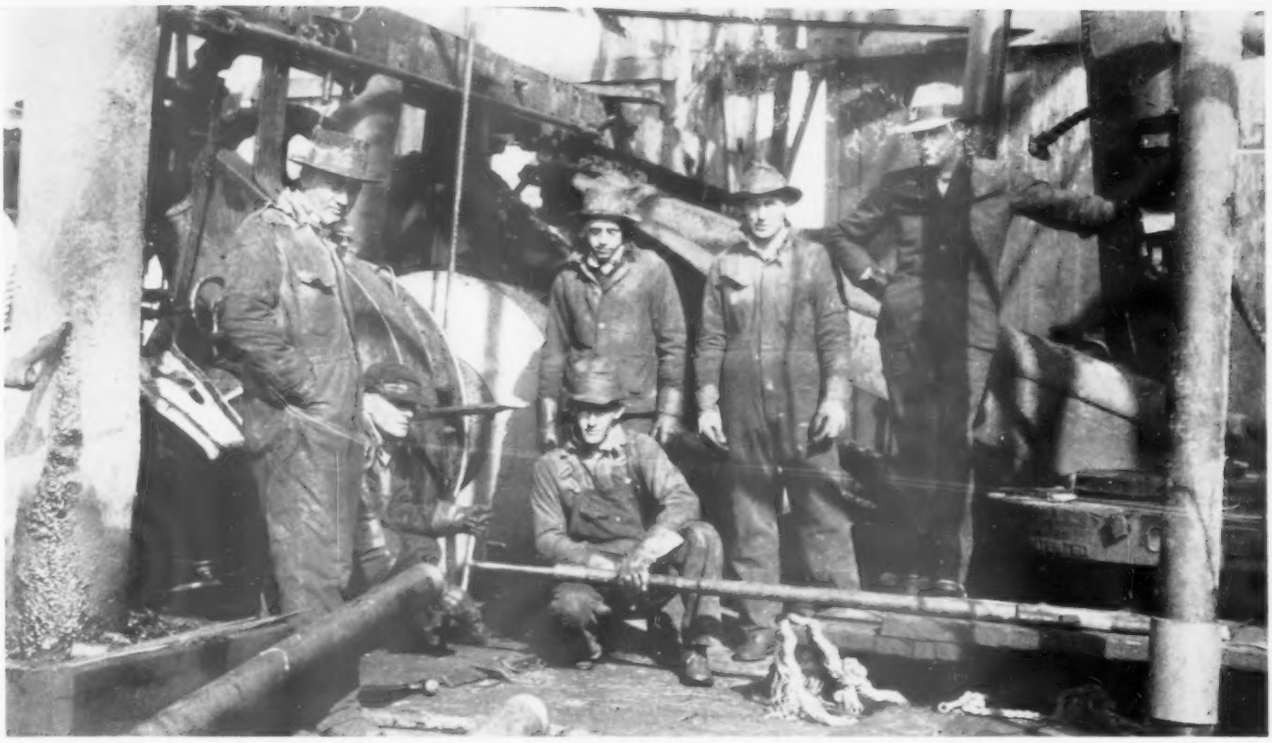
Bit Head as used in digging all but stickiest formations

The taking of core or cores does not suspend drilling operations but both drilling and coring are conducted simultaneously and a full gauge hole is assured.

When any coring operation has been completed and a particular formation sample taken, a spring type over shot is lowered on an ordinary sand line through the drill pipe and tool joints to pick up the core barrel assembly.

An upward pull on the spear head causes the driving dogs in the core barrel assembly to contract thus releasing the assembly from its cutting position and permitting withdrawal.

In very, very sticky formation where drilling speed is slowed down due to the use of small slush pumps, a small center bit is provided which is dropped through the drill pipe and tool joints to same position as ordinarily assumed by core barrel assembly.



702 ft. in One Day from 1565′ to 2267′ Eleven Cores . . . Thirty three Minutes Each 98% Recovery

The small center bit locks in drilling position exactly as does the core barrel assembly, cuts out center of hole, and diverts the play of slush column from center of the hole across the cutting edges of large bit, thus preventing the balling up of formation on the bit.

Usually a 5 x 6 reversible, horizontal twin steam engine is furnished (where steam power is available). Engine is mounted on a steel base and may either be attached or detached from the reel base, allowing for easy handling in the field.

Reels furnished are of steel construction having a capacity of 7000 feet of ordinary bailing line and are equipped with a friction asbestos lined brake and clutch with sprocket for chain drive.

A ball bearing sheave is furnished for attachment to the bottom flange of the crown block, through which the bailing line is threaded for easy operation of the overshot in picking up core barrel or small bit. Sheave is of steel construction and swivel connected to specially constructed clamps providing easy attachment to the bottom flange of the crown block.

Core bit heads may be furnished in either of two types:

The standard type head has teeth faced with Reedite giving as long service and as great efficiency as that of the drilling bit itself.

For drilling in very soft formation such as quick sand or soft water sand a long drag tooth "poor boy" type cutter head is furnished. With this type cutter head closure is effected by rapid rotation of the drill pipe with additional weight on the bot-

Reed Full Hole Tool Joints

I. D. of pin same as I. D. of upset end of drill pipe

72 ft. SAND ROCK ONE BIT FACED WITH REEDITE

tom thus recovering soft formations which otherwise might be lost.

In the Gulf Coast, Mid Continent and California fields, this tool is furnished complete with reel, auxiliary engine and all necessary parts to keep in continuous operation on a very reasonable rental basis and is constantly serviced by a trained crew from a Reed Roller Bit Company service station.

In all the other fields this tool is sold on an out right basis.

To insure the easy operation of this bit, it is recommended that tool joints now in use be reamed out as here illustrated.

In the Gulf Coast, Mid Continent and California fields this reaming service is available through Reed plants.

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The diameter of the hole through the pin of these tool joints is the same as the diameter of the hole through the upset end of drill pipe and they are absolutely guaranteed to equal in wear and service any other tool joint procurable.

When full hole tool joints are used cores fully ½" larger in diameter may be secured.

Gulf Coast and Mid-Continent Distributors

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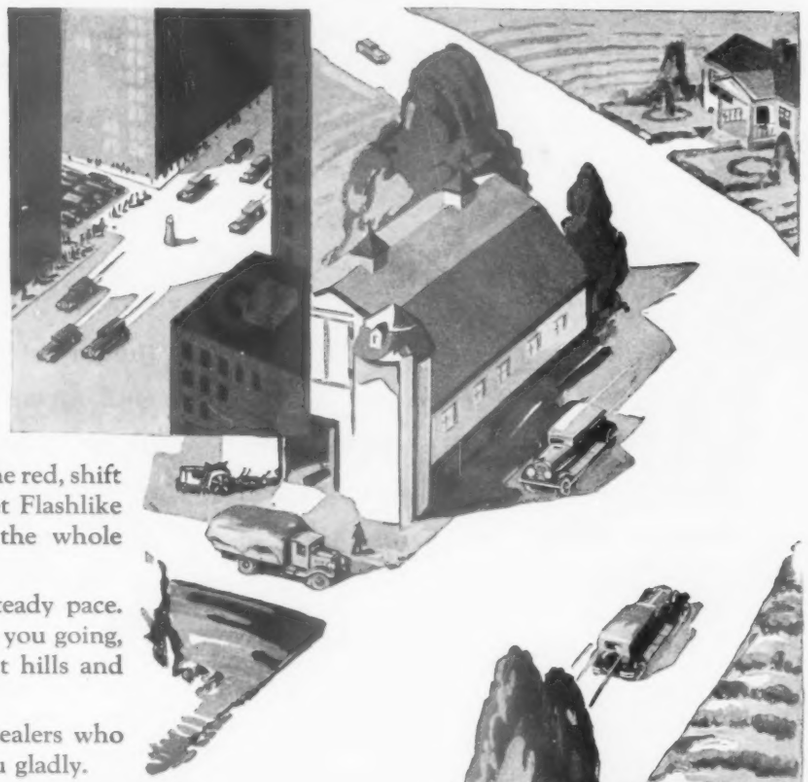
REED · ROTARY · DRILLING · TOOLS

REED ROLLER BIT CO

HOUSTON, TEXAS · · · LOS ANGELES, CALIFORNIA

Stop-lighted Corner . . . or Open Road



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Fill up your tank and get going! Dealers who display the Humble signs will serve you gladly.

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HUMBLE FLASHLIKE GASOLINE

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End Point	400	Complete vaporization --- complete combustion
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Corrosion Test	O K	No choking or corrosion of gas line
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Sulphur	less than 1/10 of 1% Max.	No pitting of valves, or fouling of oil
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A SERVICE TO READERS OF THE OIL WEEKLY

The Gulf Publishing Company, through its Service Department, now offers to the readers of The OIL WEEKLY, an information service which will save you time and at the same time keep you posted on all kinds of Equipment being used in your operations.

You can get information on several items by writing just one letter.

Below, we have listed a number of items. If you desire information in the way of Catalogs, Bulletins, Prices, etc., on any of the products listed, please check with pencil the items in which you are interested. If the item is not listed, write it in on one of the blank lines left for that purpose.

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Adapters: casing head
Air and Gas Lift Equipment
Anchors
Arc-Welders
Arrestors: flame
Arrestors: lightning
Asbestos: clothing
Backfillers: pipe line
Band Wheels
Bars: Hanger
Baskets: Cement
Beam: Hangers
Bearings
Bearings: Thrust
Belting: Power Transmission
Billets: Forging
Binders: Load
Bits: Cable Tools
Bits: Core
Bits: Rotary Drilling
Bits: Straight Hole Drilling
Bits: Wire Line
Blocks: Crown
Blocks: Rock Bit Breakout
Blocks: Traveling
Blocks: Tubing
Blue Printing: Service
Boilers
Bombs: Time
Books: Oil
Booms: Pipe Handling
Boxes: Stuffing
Braden Heads
Brake Lining
Brasses: Engine
Bridges: Steel
Breakout Gun
Brushes: Motor, Graphite
Buildings
Burners
Bushings
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Capacitors
Carbons: For Diamond Core Drilling
Casing
Casing Cutters
Casing Heads
Castings: Aluminum
Castings: Brass
Castings: Bronze
Casing Roller
Castings: Grey Iron
Castings: Monel Metal
Castings: Steel
Catchers: Tubing
Catheads
Chains: Rotary
Chemicals: Crude Oil Treating
Clamps: Casing
Clamps: Hose
Clamps: River
Clamps: Wire Line
Clutches
Coatings: Protective
Compensators: Automatic
Compounds: Treating Oil Emulsions
Compressors: Air, Gas
Condensers: Steam
Control Heads
Controls: Electric Motor
Core Drill
Countershafts
Cranes: Derrick
Cranes: Traveling
Cutting and Welding: Equipment
Cutters: Casing, Inside
Cutters: Outside Drill Pipe
Derricks: Steel
Derrick Bases
Ditchers: Pipe Line
Draw Works
Drilling Machines
Drills: Rock
Electric Generators
Engines: Diesel
Engines: Drilling
Engines: Gasoline
Engines: Oil
Engines: Rotary
Engines: Steam
Equipment: Oil Marketing
Equipment: Refinery
Extinguishers: Fire
Fishing Tools
Fittings: High Pressure
Fittings: Tank
Floats: Drill Pipe
Flow Bean
Flow Testers
Forgings
Formation Testers
Gages: A.P.I.
Gaskets
Gasoline Plants
Gauges: Automatic Tank
Gauges
Generators: Turbine
Hangars: Air-Ship
Heaters: Asphalt, Tar
Heaters: Feed Water
Hoists
Hortonsphere: For Pressure Storage
Hose
Hose: Marine
Houses
Irons: Rig
Jacks: Pumping
Jars: Drilling
Lighting Plants: Electric
Lubricators
Map Mounting
Meters
Milling Tools
Motors
Oil Savers
Orifice: Fittings
Packers
Packing
Paints
Pipe
Pipe Cleaning Machines
Pipe-Joint Compounds
Pistons: Pump
Pitmans
Plugs
Powder: Aluminum Bronze for Aluminum Paint
Powers: Pumping
Power Take-Offs
Preventers: Blowout
Printers
Pumps
Pumps: Centrifugal
Pumps: Pipe Line
Pumps: Portable
Pumps: Rotary
Pumps: Sand
Pumps: Slush
Pumps: Vacuum
Pumps: Working Barrel
Racks: Unloading, Loading
Radio Equipment
Reduction Gears
Refrigeration: Mechanical
Regulators: Pressure
Reversing Tools
Rigs: Lease Maintenance
Rigs: Pumping
Rings: Piston
Rods: Sucker
Roofing: Fire-Proof
Roofs: Breather Tank
Rope: Wire
Rotaries
Rubbers: Slush Pump
Rubbers: Swab
Saddles: Pipe
Sand Traps
Screen: Well
Separators: Oil and Gas
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Shock Absorbers
Shoes: Set
Shovels
Slips
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Spiders
Stacks, Smoke
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Steel, High Speed and Tool
Steel, Stainless
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Swabs
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Tubing
Tubing Catchers
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Valves: Pump
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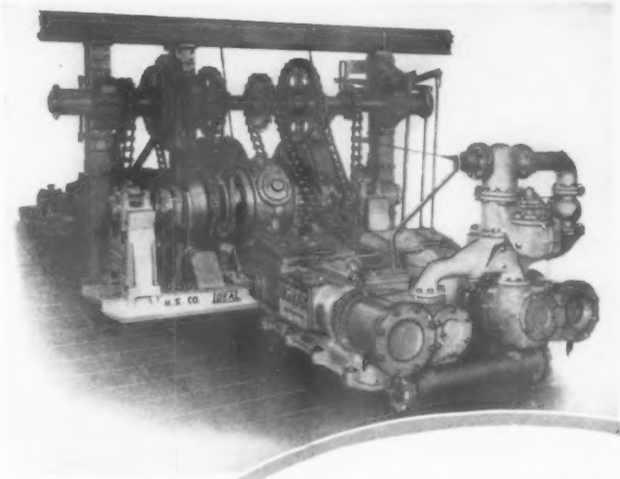
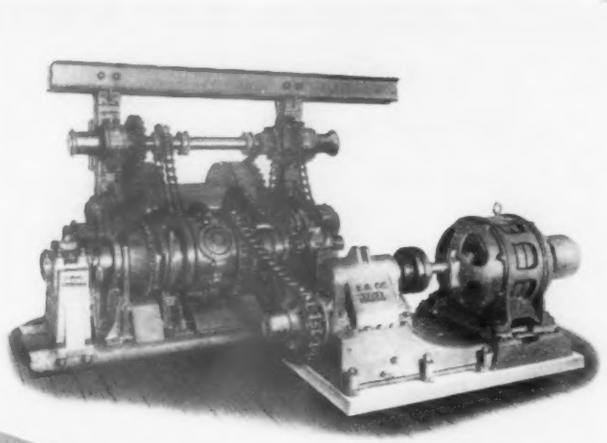
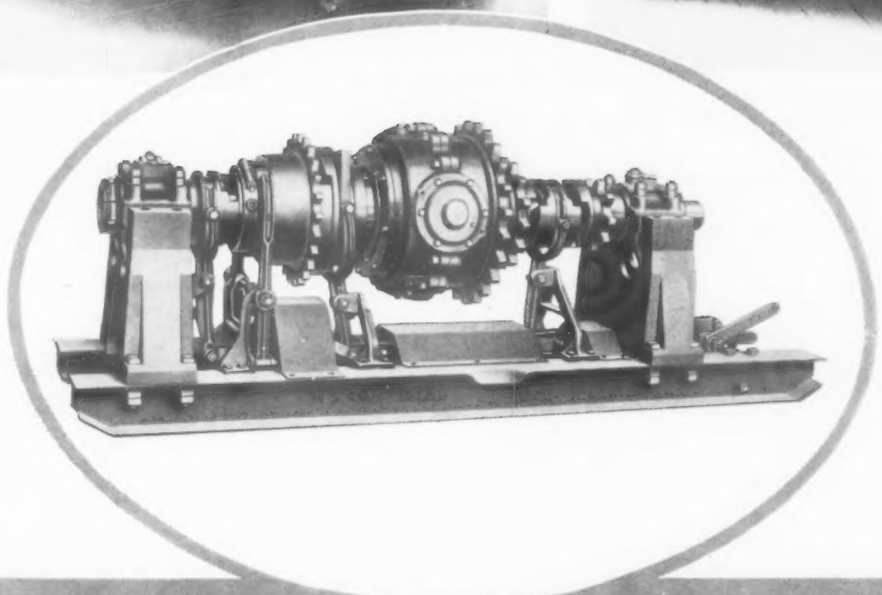
Company ..... *Position* .....

IDEAL Halliburton Drilling Control Type "C"







Descriptive Bulletin No. 70 Free on Request

THE NATIONAL SUPPLY COMPANIES

An experienced lover *could* buy his lady friend cheaper flowers than orchids but he knows that no others are so sure to please, and so certain to be free from regrets.

The experienced oil man feels the same way about his cementing. Although cheaper methods are available, he insists on the HALLIBURTON for the same reason that he insists on a reliable and time-tested insurance company.

HALLIBURTON

OIL WELL CEMENTING COMPANY

DUNCAN, OKLAHOMA

A great help to the Petroleum and Allied Industries

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Sucker Rods, Pull Rods, Working Barrels, etc.

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Our Own Specifications.

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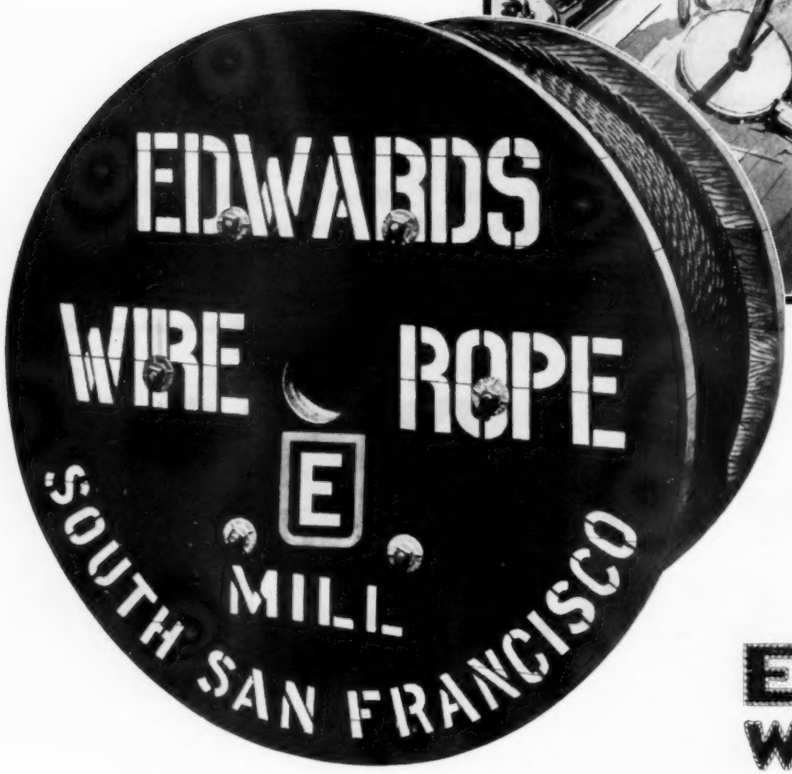
FRICK-REID SUPPLY CORPORATION

COVERS THE FIELD WITH WELL MANAGED STORES FROM THE ROCKY MOUNTAINS TO THE ATLANTIC COAST

Pittsburgh . . . . . Tulsa

You can bet your life on Edwards



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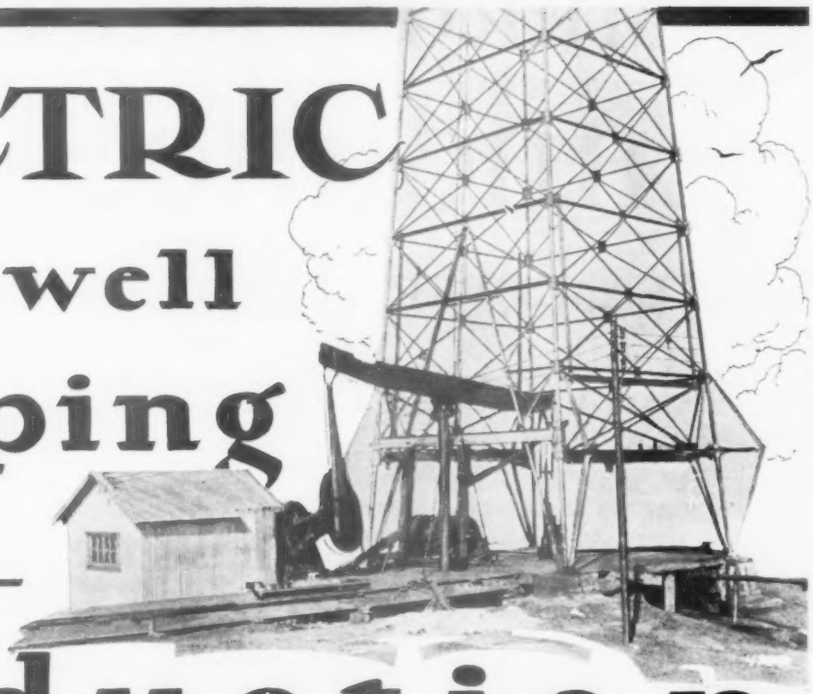
EDWARDS
WIRE ROPE

ELECTRIC
Beam well
Pumping
increases –
Production



Many reports from major operators prove that ELECTRIC POWER increases production at least 10% in beam pumping as well as showing a saving on repair expense and maintenance on equipment.

Popularity of beam well pumping by electricity is growing. Approximately 15% of Seminole's wells now on the beam are pumped by ELECTRIC POWER and over 400 wells in other fields in the state are pumped by electricity.

For beam well pumping the type of motor is usually a 2-speed double rated motor. For areas where the depth is around 2000 feet, a 15/30 H.P. Motor is customary—at greater depth, a 20/50 H.P. or a 25/65 H.P. is customary.

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OKLAHOMA GAS AND ELECTRIC COMPANY

J. F. Owens, Vice President and General Manager

Courteous, Personal Attention to Every Customer

One of a series of advertisements showing what ELECTRIC POWER has done.

CAMERON IRON WORKS

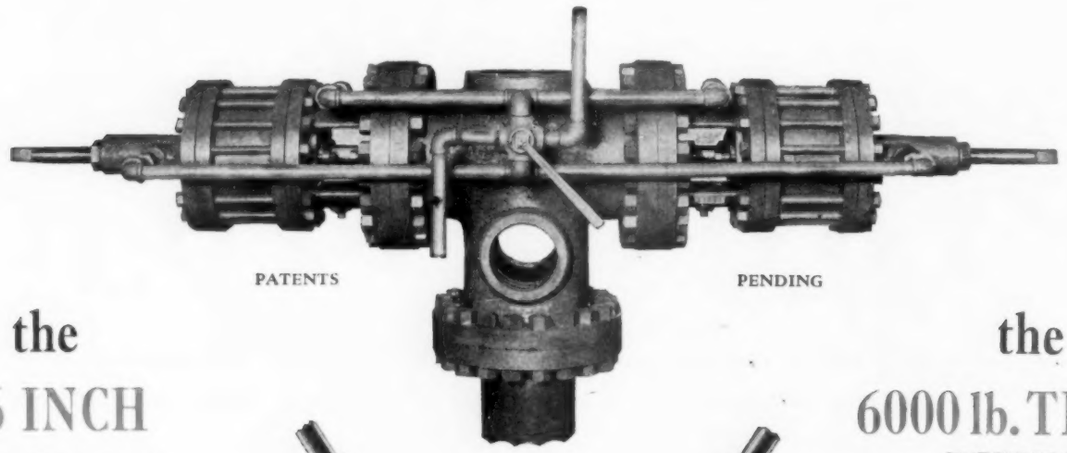
Announce- - - -

A Larger

STEAM OPERATED BLOWOUT PREVENTER

and a

HEAVY DUTY TUBING CONTROL HEAD



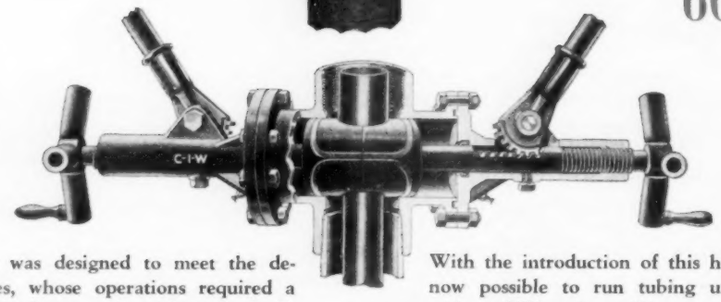
PATENTS PENDING

the

16 INCH

Steam Operated BLOWOUT PREVENTER

(Above)



the

6000 lb. TEST TUBING CONTROL HEAD

(Below)

This extra large preventer was designed to meet the demands of certain companies, whose operations required a blowout preventer sufficiently large to fit 16-inch A. P. I. casing. Reducing flanges are available in this size.

The design and working principle of this largest Blowout Preventer are identical with the smaller sizes of our standard Steam Operated Types.

It has the same 4-way operating valve; remote control; steel rams; patented hydraulic packing; 3000 pounds per square inch test and all other features that have made this Preventer without equal in the oil fields today.

With the introduction of this heavy duty control head it is now possible to run tubing under the heaviest pressures without killing the well.

This Control Head has steel rams, packed with our patented hydraulic rubber packing. These rams are operated by leverjacks and lock screws, as shown on the accompanying three-quarter view of the Control Head.

By using two of these Heads, one above the other and opening and closing them alternately to allow couplings to pass, it is possible to snub in tubing against any pressure without killing the well.

For low pressures there is the 1200 pound test Tubing Control Head which has been extensively used for "tubing" wells developing less pressure than 1200 pounds per square inch.

CAMERON IRON WORKS INC.

HOUSTON TEXAS

California Distributor

PETROLEUM EQUIPMENT CO.

2800 S. Alameda St.

Los Angeles, California

DEC -2 1929

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NOVEMBER 29, 1929

Edited Weekly at Houston, Texas

SPENCER W. ROBINSON, EDITOR

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Published Weekly

by

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8148 FEET...

THE GULF COAST'S DEEPEST TEST

WITH "OILWELL" ROTARY

• • •

ENGINE

• • •

BOILERS

• • •

An "Oilwell" 17" Junior Make-and-Break Rotary, an "Oilwell" 11"x11" Twin Cylinder Engine and two "Oilwell" 70 H. P. Syphon-Equipped Boilers drilled 8148 feet at Barbers Hill—the Gulf Coast's deepest test.

Pipe weighing in excess of 115,000 pounds was handled without difficulty by this equipment. Joints were made-up and broken-out by the rotary. There were no twist-offs and no mechanical trouble during the 158 days of drilling. There was not an accident to any man on the job.

Such performance emphasizes the fact that "Oilwell" equipment WILL and DOES perform successfully and safely under the most severe conditions.

059

OIL WELL SUPPLY CO.

NEW YORK—LOS ANGELES—PITTSBURGH, U.S.A.—SAN FRANCISCO—TAMPICO—LONDON

WORLD'S OLDEST AND LARGEST MANUFACTURERS OF OIL FIELD EQUIPMENT

Curtailment Improves Crude Carry-Over Outlook

By H. J. STRUTH
Staff Economist

THE soundest argument in favor of extended proration of oil production throughout next year is accentuated by the results that accompanied such effort late in this year. Unfortunately, the action taken in California as well as in Oklahoma was delayed longer than necessary; nevertheless, there resulted a radical economic change in the industry's status that proved a step in the right direction. The fact that the national daily average crude production declined 353,450 barrels, from the peak of August 31 to November 18, resulting not only in the restoration of California crude prices but also in stimulating the industry's entire market structure, furnishes ample proof of the value of concerted control over production. This important turn of events has literally "saved the day" for the industry, and has altered the gloomy outlook of only a short time ago. Thus, instead of facing the prospect of a crude carry-over of 111 million barrels, the industry's above-ground crude supply will actually show an increase of 70 million barrels, a clear economic gain of 41 million barrels.

Carry-over Was Predicted

In summing up the crude petroleum situation for this year, it is of interest to recall an article prepared by the writer in the February 22 issue of *The* OIL WEEKLY. In that article, attention was called to the unfavorable outlook, despite the fact that the industry faced a billion barrel crude demand. Even at that early date, it was apparent that the record demand would not absorb the current production of crude. In a note of warning, it was pointed out that unless concerted effort was made to curb excessive production, the industry would face the likelihood of a crude carry-over of between 50 and 75 million barrels. This reasoning was based upon the belief that production would continue to soar to new heights, establishing a new record in the daily average for the year, that indicated a wide margin between supply and current demand. Subsequent events proved that the warning was unequivocal, since the demand will actually exceed a billion barrels, while the net result of the year's overproduction will prove to have been responsible for an excess of 70 million barrels. This is based upon the following summary of conditions, as indicated by the actual results of the first 10 months of this year, and probable results during the remaining two months.

The decline recorded by production since the peak established during the week ending August 31, indicates that the total output of crude petroleum during the present year will be approximately 1,003,000,000 barrels, whereas, prior to the sharp decline, accredited to Oklahoma and California, the projected total for the year was approximately 1,031,000,000 barrels. Proration has prevented an additional excess supply of 28 million barrels. At the same time, credit is also due to producers in South America, who have agreed to limit production in order to prevent the influx of excessive supplies of foreign crude. The result of this effort has pared the quantity of crude imported from South America to the extent of at least 13 million barrels this year. In other words, the rate of shipments from South America to the United States in the early part of this year indicated that our imports would aggregate 100,000,000 barrels. As a matter of fact, actual receipts thus far indicate that the aggregate for the year will probably not exceed 87,000,000 barrels. Curtailment in the United States and South America has been directly responsible for a reduction in this year's crude supply of 41 million barrels. This is a concrete example of what can be accomplished if the industry will continue to lend wholehearted support to proration and unitization throughout the coming year.

Next Year's Demand

It is still too early to attempt to estimate next year's crude reuirements, although there is, even now, every reason to believe that the 1930 demand will exceed 1,100,000,000 barrels. This means that the daily average production next year must be maintained at a rate not to exceed 2,740,000 barrels, since at least 100,000,000 barrels of supply will originate in South America. If production is maintained at the present allowable rate through January and February, and extreme care is taken to increase field allowances in conformity with actual requirements, there is every reason to believe that 1930 will develop into a most prosperous year for the industry. The lesson of 1929 should prevent a recurrence of the situation out of which the industry seems to be gradually emerging. Conditions of the past have proven that economic stability can only be attained through cooperative control of production. Since there is no longer any doubt over the ability of producers to maintain a reasonable balance between supply and demand, it must be conceded that it would be an act of folly to abandon existing curtailment measures at the expiration of present agreements. The logical way to insure economic stability throughout 1930 is to determine now how much crude will be required from each field, particularly the flush areas, and adhere to that quota. If the industry will resolve to begin the new year along the sound economic set-up now in force, confidence will supplant uncertainty, and the record-breaking demand in sight will insure greater prosperity for all concerned.

SUMMARY OF THE 1929 CRUDE SITUATION

	Barrels
Total crude stocks January 1, 1929	485,401,000
Production, first 10 months	847,873,000
Estimated production, November and December	155,000,000
Indicated Imports	87,000,000
Total Supply	1,575,274,000
Domestic Demand	995,000,000
Exports	24,000,000
Indicated Total Demand*	1,019,000,000
Indicated Stocks, December 31, 1929	556,274,000
Net Carry-over into 1930	70,873,000

*Exclusive of crude consumed on leases.

Howard-Glasscock Proration Step Effects Deep Oil Producers

By H. H. KING
Staff Representative

FORT WORTH, Texas.—More severe production restrictions and a slight downward revision of posted prices on the highest grades of deep oil production in the Howard-Glasscock County district's prorated wells will take place beginning December 1. Operators and lease owners voted their approval of the above changes during a joint session held here November 22 with pipe line companies in order to restore the crude market situation to normalcy and reestablish the proration plan on an equitable basis. About 50 representatives of the operating and purchasing companies attended the meeting, which was presided over jointly by M. B. Sweeney, production manager of the Sun Oil Company and chairman of the proration advisory committee, and E. E. Andrews, field umpire. R. D. Parker, chief supervisor of the oil and gas division, represented the Texas Railroad Commission.

Development of the Settles 2200-foot lime horizon on a large scale in the western edge of the Howard-Glasscock district provided sufficient volume of oil from pumpers to upset the local crude market situation during the past six weeks. Oil from this particular horizon ranges from 30 to 33 gravity, but on actual refinery yield does not compare favorably in value with the 28-29 gravity oil from the Roberts deep horizon when both are bought at gravity scale prices. Crude purchasers have either dodged, or placed a limit on, the volume of oil acceptable from the Settles horizon, thus resulting in a very irregular market situation. Beginning on December 1 the Settles 2200-foot oil production will be retained on West Texas pravity scale prices only up to 28 to 28.9 degrees at 86 cents, and for each degree of gravity from the latter level to 36 and above a difference of two cents will prevail, instead of four cents as heretofore. This alteration of the price scale will incur a loss of six to 10 cents per barrel to producers and royalty owners, but will serve the desired purpose in making the crude popular with the purchasers, instead of being a second choice in the field.

Yield to Balance Purchase

Production allowance from the deep horizons in the Howard-Glasscock County district is limited to 37,500 barrels daily under proration rules of the commission, but failure of the pipe line companies to maintain normal purchases has caused the average to be about 29,000 barrels daily, with the older wells in the eastern part of the field producing 75 per cent. of their potential output. Wells in the west extension have been pumping from 10 to 40 per cent. of their potential, with the latter figure set as a limit because of crude buyers dodging this higher priced oil. Operators drawing the smaller allowance registered complaint, since the field was not being prorated equally.

Beginning in December all deep wells will be allowed to produce the same percentage of their respective potentials, and all purchasers must nominate their expected daily crude requirements for each calendar month so that the umpire may fix the field allowance at a figure that will balance with buyers' requirements. A tentative figure set at the Fort Worth meeting placed the daily allowance for December at 25,000 barrels, or about 4000 barrels below the average for several months. This field allowance will vary according to the requirements of the purchasing companies, but must not exceed the limit of 37,500 barrels daily fixed by the commission.

Dr. A. Wade Schurtalla, manager of crude oil sales and purchases for the Shell Petroleum Corporation, St. Louis, testified that his company's refineries reported a loss of about 19 cents per barrel when operating on 33 gravity oil from the Settles horizon as compared to value of refined products from other deep oil production in the field at a lower gravity and lower price. He introduced the plan of creating a separate price scale that was later approved by other purchasers in attendance. The daily average crude requirements during December for the Shell Ptroleum Corporation in the field was placed at 8000 barrels.

Oil Not Worth the Price

George Moore, vice-president in charge of sales for the Cosden Oil Company, stated that his company had filled all of its available storage and also leased tankage in the field in an effort to properly serve the producers. Moore informed the producers that his company's refinery operations on the Settles crude had proven conclusively that the value was not present in comparison to the yield offered by the cheaper priced and lower gravity oil from the Roberts 3000-foot horizon. The December requirements of the Cosden Oil Company were not announced, but Moore indicated that approximately 10,000 barrels daily would be taken from the field.

Crude requirements of the Humble Oil & Refining Company from the field over the next six months was placed at 6000 barrels daily by John R. Suman, director in charge of production for the company in North and West Texas. Suman gave testimony as to gasoline yields of deep oil production in the district to illustrate the disadvantage in paying regular West Texas gravity scale prices for the Settles oil.

Upon motion made by W. L. Todd, vice-president in charge of production for the Simms Oil Company, the operators agreed to alter proration rules so that the umpire might pump wells for two hours in determining monthly potential production estimates, but using the last hor as the basis for making the 24-hor estimate. Henceforth the mpire has made his estimate on a basis of the first hour, thus resulting in many wells being shut down just before official gauge is taker so as to get the benefit of the "head." Umpire Andrews stated that he makes it a policy to pass up a lease when the field superintendent is expecting his arrival for the official gauge.

Deep wells averaging less than 200 barrels daily on pump will continue to be exempt from proration restrictions, as has been the case in the past, while proration restrictions on the small group of wells in the 2500-foot horizon will likewise remain on the "free list."

Since oil drainage has been uneven in the west extension of the Settles area, the operators voted their approval on a motion that production of offset wells be balanced up as soon as pipe line companies can take the oil.

Enforcement of the commission's rules governing the drilling of only one well on each 40-acre unit, unless to a separate oil horizon, or to take care of offsets, will be continued. Umpire Andrews testified that about half dozen "outlawed" tests have been shut down, or will be shut down on top of the pay for violation of this rule, and pipe line companies are to be refused permission to connect to same. Doc Altenau of the Sun Oil Company, Dallas, was secretary of the meeting.

Standardization Again Main Topic for A. P. I. Gathering

Committees to make reports of progress in standardizing drilling and pumping equipment at Chicago

CHICAGO.—When the American Petroleum Institute meets here December 3, 4 and 5, in the Stevens Hotel, standardization of pumping equipment and engines, cable tools and drilling equipment, and wire rope and manila cordage will consume an important part of the program. Likewise, the committee on railroad equipment will have ready a report which will have as its purpose the pointing out of the necessity for standardization tank car specifications, tank car dome steps, and bottom outlet valves, and the like.

In addition to the above, progress made by the committees on fire prevention, corrosion, pollution and railroad transportation will be reported.

Following the nomination of candidates for election to the American Petroleum Institute's board of directors on the morning of December 3, and President E. B. Reeser's address at 2:30 that afternoon, Sir Henri W. A. Deterding of the Royal Dutch Shell Companies will address the institute on "Common Sense in the Oil Industry."

T. E. Swigert of the Shell Oil Company, Los Angeles, is national chairman of the pumping equipment committee. E. H. Williams of the National Supply Company, Cleveland, Ohio, heads the special committee on cable drilling tools. C. C. Sharpenberg, of the Standard Oil Company of California, Bakersfield, is national chairman of the committee on standardization of wire rope and manila cordage. These committees are units of the Institute's division of standardization.

The program for the special committee on pumping equipment will begin Monday morning, December 2, at 9:30 o'clock, in room 444-A of the Stevens Hotel, but the special sub-committee on working barrel gages, of which H. N. Marsh, General Petroleum Corporation of California, Los Angeles, is chairman, will hold a preliminary meeting Sunday, December 1, at 2:30 p.m., in the same room.

Pumping Equipment

The main committee will receive reports of the sub-committees on working barrel gages and on standards on inserted working barrels and pump parts, consider a change in standards for reground working barrel liners and plungers and ground steel plunger tolerances and discuss research on oil well pumps. Sucker rod usages and specifications, master gages, internal combustion engines and clutches, pull rods and couplings, electric motor frame dimensions, tubing standards and codes on care and use of equipment in the field also are leading subjects on the program.

The cable tool committee will meet Monday morning, December 2, in room 452-A. The program calls for consideration of a supplement to American Petroleum Institute cable drilling tool standards, a report on the check of reference master gages, discussion of standards on polish rod hangers and temper screw tees and a proposed poster on cable tools.

Wire Rope and Cordage

The manila cordage section of the wire rope and manila cordage committee meets Monday morning, December 2, at 10:00 o'clock, in roof 439-A. Subjects for consideration include depth of bull-rope tugrim grooves, spacing of bull-rope grooves, use of the American Petroleum Institute monogram on cordage and the listing of testing laboratories. The wire rope section, which meets at 2:00 p.m., the same day, will discuss among other subjects, proposed elimination of maximum tensile strength requirements on individual wires and of the bend test; specifications for power pull and pumping lines, and will hear a report on the American Petroleum Institute repeated tension fatigue machine.

On December 1 and 2, before the formal opening of the tenth annual meeting of the Institute, committees on railroad equipment, pollution, corrosion, fire prevention, and railroad transportation, will meet.

The program of the committee on railroad equipment, which will meet Sunday evening, December 1, at 8:00 o'clock, in the Stevens Hotel, calls for discussion of standardization of tank car dome steps, revision of A. R. A. specifications of tank cars, interchange rules and testing dome covers, safety valves and bottom outlet valves. D. V. Stroop, Institute engineer, is chairman of the committee.

Oil Pollution

Robert F. Hand, of Standard Supply Company, New York, chairman of the general committee on oil pollution, has announced that body will meet Monday evening, December 2, at 8:00 o'clock, at the same place. Prominent among subjects to be considered are certain recommendations for the prevention of oil pollution prepared by the technical committee and plans for further study of pollution prevention in the field.

The technical committee on prevention of pollution will meet Saturday, November 30, at 10:00 a.m. The principal subject will be the first preliminary draft of section five of the proposed American Petroleum Institute Tentative Code of Recommended Good Practice in the Prevention of Pollution. Other subjects include employment of a paid committee to survey the properties of oil companies, co-operation of government departments and anti-pollution agencies in preparation of the code, definition of pollution in terms of per cents of oil or other polluting substances present in water to be discharged from oil company properties, and endorsement of the principle of co-operative action to prevent pollution in congested areas.

Study of Corrosion

The general committee on corrosion will meet at 8:00 p.m., December 2, in the South Ball Room. This meeting will be given over to a conference with manufacturers of coatings for underground pipe lines. The program for the general committee meeting at 9:00 a.m., Tuesday, in Private Dining Room No. 4, calls for presentation of reports and papers on the general subject of corrosion and discussion of corrosion records, tests of protective coatings and revision of codes. Dr. R. P. Anderson, Institute technologist, is chairman of the general committee.

The general committee on fire prevention, of which Dr. Anderson is also chairman, will meet at 2 p.m., Monday, in the West Ball Room. General business of the meeting calls for presentation of four-year summary of the Institute fire record, presentation of reports of committees and discussion of current practice in fire prevention and fire protection within the industry.

Fayette B. Dow, Washington counsel of the Institute, will preside as chairman at a meeting of the general committee on railroad transportation to be held December 2, at 10:00 a.m., in the West Ball Room. Among subjects for discussion are the industry's sidetrack agreement, protection of oil sidings from danger due to stray currents and static, uniform methods of taking temperatures in tank cars and tank car mileage.

[THIRD INSTALLMENT]

Proportion of Formation Gas to Oil

By HARRY PENNINGTON
Mechanical Engineer

The matter of gas proportions to oil in flowing wells, though closely allied to, is quite distinct from the gas and air lift, and from repressuring with compressed gas or air.

Almost all deep and moderately deep oil fields possess originally, sufficient gas, that if the energy of gas is subjected to directed control, all of the oil content of the sand could be lifted to the surface even with a very low mechanical efficiency in the utilization of formation gas energy.

It is then evident that when formation gas is blown out indiscriminately, or when its energy is not used efficiently, the losses of energy thus set up must eventually be replaced with manufactured energy, from gas engines, or other prime movers. These costs of compressor plant are large, both for capital investment, and for maintenance, and moving about, and it appears the height of folly to dissipate far more total energy than necessary during the initial flowing period, and then employ an investment of $10,000 to $15,000 per well for compressor plant, to replace that energy, for securing further recovery.

In addition to the energy loss, as above, which is stupendous in quantity, there are accomplished further losses by deterioration in the free flowing qualities of the oil sand, for the evolution of gas in the formation, and expansion, set up material changes in the oil.

When gas evolves from solution, and when gas evaporates from oil, heat is required, and of course such heat is derived from the formation and from the oil therein. And after gas has been evolved, its expansion in doing the work of driving oil laterally, also requires heat in an amount equal to the work done.

Temperature Reductions

These factors lower the temperature of oil in the formation, as shown by careful temperature measurements made by the writer over a long period of years.

The relative temperature effect of gas evolution, and gas expansion doing work, is quite difficult to separate. We cannot compute directly, the amount of heat involved in doing the work of driving oil laterally to an outlet, but we can compute the heat of vaporization required to generate gas, and from existing pressures determine what portion of gas was evolved in the formation, and the heat required therefor. The remaining temperature reduction is a matter of converting the temperature loss back into work. Thus indirectly computed, we find that the work of driving oil laterally to a well is very small in its heat equivalent compared with the heat required for gas evolution and with the energy equivalent in heat for lifting oil to the surface after entrance into the well bore.

IN the accompanying discussion on the proportion of formation gas to oil, Mr. Pennington is giving the results of his experience extending over a period of years in this particular study. Some of his conclusions are revolutionary and will no doubt be questioned by other engineers and field men. The OIL WEEKLY invites discussion of the subject and will be glad to hear from its readers.

Then, it follows that during the earlier stages of production, whether the flush lasts one month, one year or several years, the temperature reduction will be small—sometimes so small as to be unmeasurable, but, when the sand and its oil is depleted of the upper soluble gas fractions, and the lower liquid fractions begin to evolve, temperature reduction, from that originally obtained, is very marked, which is due largely to the greater latent heat requirement than for expansion of the same gas.

Then, as the emission of gas will lower the formation and its oil temperature, it is clear that irreparable injury is set up by high gas proportions, and that, as we have so far no means of correcting unduly low temperatures, repressuring is not as effective in recovery, as when equally high efficiency in utilizing the original gas and its energy for the same purpose as repressuring is used.

Lowered Lifting Costs

Generally, as wells age, the proportion of gas increases—with current field methods. But this is not necessarily excessive. The apparent reason for the proportion of gas steadily increasing is that formation pressure reduces by using the gas; if the gas is used excessively, formation pressure decreases in the same proportionate amount, and, as the pressure decreases, gas is evolved from all formation oil in direct proportion, becoming free gas which is always difficult to control.

If the proportion of gas is lowered to where an efficiency of even lower than five per cent is secured in the utilization of formation gas energy, the proportion of gas evolved from solution will lower, due to retarding formation pressure reduction.

It is quite true that as gas is withdrawn from a formation, the formation pressure reduces, but, when the gas is so utilized to secure even a reasonable mechanical efficiency, as above, formation pressure reduction in no case will initially seriously effect the evolution of excessive amounts of formation gas.

The writer has endeavored to point out the differences existing between the flowing of wells with formation gas as a source of power, and the blowing of wells with compressed gas, or air, as a source of power, with the idea that when formation gas is utilized with a reasonable efficiency, the volume of gas produced with each barrel of oil may be materially lowered and, when wells are placed on compressed gas, the investment for compressor plant may be materially lowered, together with lowered lifting costs.

The huge compressor plant erected, for instance, at Seminole might have largely been reduced with exact design of flow lines and with exact usage of formation gas, and have a greater percentage of production secured. Formation gas in that area was of such large volume and of such high pressure that its contained energy was far greater than that necessary for elevating the whole oil content to the ground surface.

The millions of dollars invested in compressor plant in that area represents a charge against production. It is true that some of this plant has been converted to the manufacture of natural gasoline, at a profit, yet, the ex-

ess capacity and the changes necessary in converting high pressure compressors into low, in those so utilized, is an additional charge against production.

In many fields, there is no appreciable gasoline content in formation gas and, in such fields, if as large plant were constructed, the loss would still be greater.

Repressuring

Where fields are partially depleted of gas, and its pressure, repressuring is effective—more effective than if the formation is completely evacuated of gas pressure, as we derive from this paper, and from previous papers of this series.

Then, the obvious procedure, in such a case, is to introduce compressed gas, in an amount at least equal to daily withdrawals, to prevent a further lowering of formation pressure, beginning the introduction of extraneous gas at such a point of formation pressure as becomes commercial. For example, when the formation pressure is 400 pounds, or thereabouts, a 400 pound capacity compressor will replace the gas used for lifting oil, and maintain formation pressure approximately at that figure—400 pounds being a commercial pressure today.

Of course, the time will eventually arrive when introduced gas costs are excessive, compared with recovery, when 400 pounds is used, and then, the repressuring pressure may be lowered, increasing the gas quantity with larger compressor cylinders requiring the same horsepower, to compensate for the larger volume of gas required at the lower pressure.

And eventually, pumping with rods and tubing becomes necessary, but at that time also, sustained formation pressure in a moderate amount furthers recovery.

There are certain classes of formation that are ill adapted to repressuring, comparing oil saturated sandy shales with pure oil sands without shale, due to the formation itself, and also, mechanical appliances — strainer —for separating oil from loose sand offer some difficulties. Oil saturated shales with a small sand content deliver oil and gas at slow rates, and conversely, such formations receive introduced gas very slowly or not at all. Loose, unconsolidated sands, supported by strainer walls, take gas very slowly particularly because the strainer corrodes, which is frequent.

These matters are such that since successful repressuring may be secured only with considerable capital investment and expense, or even perhaps not at all, the full utilization of formation gas and its energy during the initial flowing period is the logical means of securing the high recoveries sought, together with low lifting costs.

High Recovery Percentages

The writer has sketched a reservoir, Figure No. 10, containing oil and gas, with a surplus of gas over that required for complete saturation, with

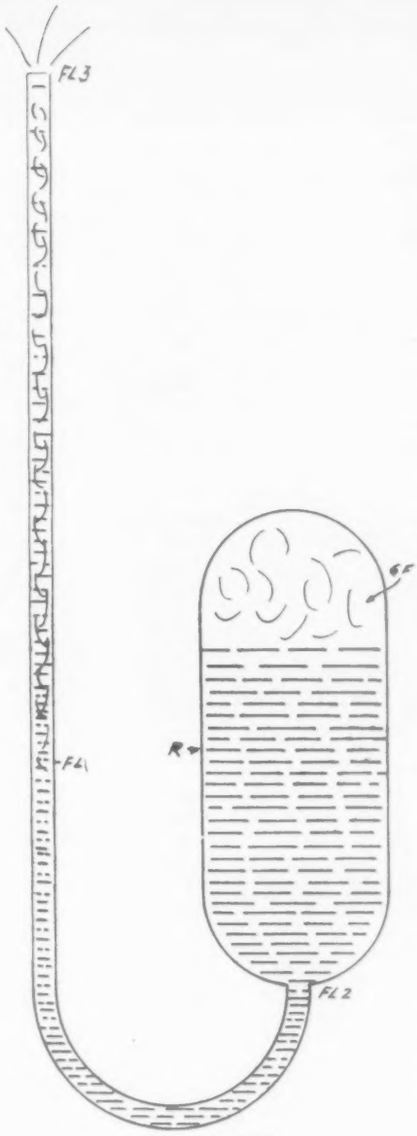


FIGURE 10
Ideal conditions of flowing well

the surplus shown trapped in the roof of the formation.

For convenience in outlining what might be termed an ideal condition for high recovery percentages, the reservoir is shown at R; the surplus gas at any time during production above the oil in the sand at S, with the oil level at L. The reservoir is tapped with a flow pipe at bottom, as at F, and this pipe is led to the surface. When the pipe is opened to the surface atmosphere, oil immediately will flow up the same, to the level equivalent to formation pressure. At the same time, pressure reduction liberates gas, and the pipe then begins to flow oil and gas, on the principle of the air lift.

Tapped at the bottom, it is evident that the free gas cannot enter the flow line; that, as oil is withdrawn, only that amount of gas contained in the oil is withdrawn with the oil; that as the oil level lowers in the formation, its space is occupied by expanding gas; that when the oil level has lowered to the flow line, then free gas will blow downward through the oil sand, driving adhered oil with it, into the flow line, and when the gas is exhausted, then the oil will also have largely been exhausted also.

As a general proposition, the gas dissolved with full saturation in oil by pressure contains sufficient energy to lift the oil to the surface with a reasonable efficiency. In many cases, there is many times the required energy, if the same is properly utilized. Then, with the above in mind, the general principle may be applied to fields where ownership or agreement permits.

Where a field is divided as to land ownership, but not as to operation, wells on the peak of structure may be piped to approach the ideal condition, while flank wells may to piped somewhat differently, to approach the ideal in all cases.

Divided operating ownership of fields tends toward low recoveries, we know, but the field will eventually turn to operations based upon sound engineering, and the writer is outlining the foregoing ideal condition with this view.

Conclusions

Conclusions from the foregoing paper are:

Formation pressure differentials are a distinct matter from flow line pressure differentials.

Formation pressure differentials should be *maintained as low as possible* to prevent evolution of gas in the formation, for securing high recoveries and low lifting costs, with low gas proportions.

Flow line pressure differentials *should be maximum*, to first evolve the gas of solution, and then to expand the same while doing the work of lifting oil, for securing the maximum number of expansions, to lower the quantity of gas required for elevating oil to the surface.

Repressuring should be delayed no further than the point where commercial pressures are possible in compressing gas for introduction into the formation.

Repressuring presents some difficulties and large costs, and therefore, low proportions of formation gas are to be relied upon for high recoveries, with repressuring as an adjunct only, to further recoveries;

Flow lines are still a matter of empirical formula, or one of a test basis;

Surface back pressure on flow lines is an expedient for correcting improper flow line design and equipment.

The method of operating an oil field, as contemplated by this series of papers on gas proportions, is as follows: (1) Flowing with gas proportions held low until such time as formation pressure lowers to that now regarded as commercial operating pressures for introducing compressed gas; (2) Sustaining formation pressure, and the flowing period by introducing extraneous gas at such commercial operating compressor pressure; (3) Assisting in the flow of wells by means of the gas and air lift; (4) And when compressor operations are no longer profitable for using the

air and gas lift, then to continue repressuring while wells are being pumped with rods and tubing, to the end of commercial production.

The reader will understand that all of the matter contained in this series was not gathered all at once; instead, the original conception of the theory required seven years for full development into practice, in 1919, and nearly seventeen years have elapsed since the first computations based on this theory were made.

Review

This being the last of the writer's series commenced in 1923 on the matter of gas proportions as affecting primarily the recovery percentages and the lifting costs of oil, a review of the subject is proper.

The applied research that led to the discovery of these new principles of production, and their announcement in the above year, began in 1913 while the writer was then chief engineer of mechanical engineering for The Producers Oil Company, the then producing subsidiary of The Texas Company, at a time when line fights were being waged at Electra with other major producers in securing competitively the greatest amount of oil possible, by protecting land lines of competitive properties with offset wells, drilled in double and triple rows of staggered locations. While the land lines were protected by fast drilling, and wide open flow of oil with high gas proportions, the oil still remaining in these sands penetrated by these wells is sufficient evidence that line fights are expensive considered from any angle, and futile.

The line fights staged as above were no small affairs. Drilling was done as rapidly as the rotary could spin the pipe, as fast as able administration could accomplish, as fast as adequate facilities on a large scale could allow. Every time a joint of pipe was made up into the drilling pipe string, the foreman tooted the whistle, stirring competitive crews to further activity—steam whistles being provided solely for that purpose. Although standard tools were largely used initially, these gave way to the rotary because of the greater rapidity of completing wells.

And, after completion, wells were opened wide to full flow, regardless of the quantity of gas, without securing even the 1/100 of 1 per cent mechanical efficiency in the utilization of the stored energy of such formation gas, as clearly shown by records of the writer maintained at that time.

In the face of such severely competitive methods of that field, and of course, of many others, the matter of directed control over the energy of formation gas and its energy to the end of higher recoveries was something quite beside the point of besting a competitor was considered impractical, Utopian, useless endeavor, not only in practical operation, but because it was not believed that co-operation, instead of competition, is an end to greater profit.

Origin of Data

But, immediately after the world war, the writer's own wells in the highly competitive fields of Burkburnett afforded full opportunity for leisurely studying the matter, and the principles set out in this series of papers were fully derived in 1919. Then, four more years were required to reconcile and compile all the data obtained, in shape for announcement, and believing that the field could be reinforced by engineering, the writer selected this journal as a medium through which the field—and the writer's own—operations might be bettered.

The many letters received from all parts of our country, and from over the world, indicated that the field was, and is yet, fully alive to its opportunities, for dissent from no quarter of the globe has been perceived to these new principles of production, up to the present time. While many operators do not, or cannot through necessity, operate a field with these principles as a basis, still, to a unit, it is agreed that the same are correct, both by the field and by the staff.

We find today, these same fighting organizations still fighting, but on a different basis. The field now fights against waste set up by the needless loss of gas produced with oil, and these producing organizations have gone to extreme limits, in some cases, in the matter of conserving formation gas and its energy, as a means of more profit, employing proficient staff in large numbers, and furnishing adequate equipment on a large scale, involving heavy expense, but with greater profit. For all costs of production are lower, both by reason of unhurried drilling programs, and by greater recoveries of oil lowering the total cost per barrel of recovery. Where production is restricted to secure low gas proportions as is sometimes necessary, the sustained flow of wells carefully held within resonable low gas proportions soon overtakes the total production of wells that decline more rapidly with open flow without regard to gas proportions.

From such a small beginning as a few pages in this journal in 1923, oil field practice the world over has been revolutionized and started toward a basis of precision. It is no longer necessary to argue that the percentage of recovery and the cost of lifting oil depends upon the quantity of gas produced with each barrel of oil, for, in addition to the writer's arguments, others—many others—have ably supplemented. Field and staff alike are fully cognizant of the effect of indiscriminate and useless release of gas originally with oil and the large losses of power stored in formation gas by natural forces. From no staff at all, major producing organizations have employed proficient engineers for both pure and applied research into this phase of production, particularly within the past three years, and the momentum gained toward precision in field practice is setting up even more rapid advances leading to more efficient production methods by improved technique of field engineering.

Thus, the present movement for directed and greater utilization of the natural forces found in an oil formation was commenced. Not only has field investigation continued at an increasing rate, but investigation along the line of pure science is being made, placing the oil industry at once on a higher plane, both as to profit and as to economics.

The present overproduction might be remedied, and the price structure undisturbed and the oil industry stabilized by setting up future reserves, by a careful application of these principles.

First Announcement of New Principles

The writer refers to the papers first announcing the subject matter in principle, and quotes the following, which was then, and is now become, of the most significance in the field.

"The initial flow of the discovery well in a field is by expulsive pressure forcing oil into the well bore where it is carried upward by pressure, by buoyancy and by friction of gas bubbles on the same principle that the air lift works. As pressure subsides, due to withdrawals of gas—*not oil*—gas may issue in part from the oil in the sand away from the well bore.[1]

"[2]Famous wells, wells that made the owners rich, are levelled to the same approximate production of wells that required years to 'pay out' by this thing—pressure and quantity of gas. We all know that the head on a field gradually reduces; that it is a vanishing factor of production; that flush production affords the greatest percentage of profit; that when we dissipate gas and its pressure, so potent in flush production, the production curve turns down the flattens, and, whether there has been five per cent or 25 per cent of the oil content of the sand recovered, daily production depends upon pressure, pressure upon the quantity of gas. Therefore, the percentage of recovery depends, not alone upon pressure, not alone upon the quantity of gas found, but at the rate at which we use the gas and its pressure to lift it to the surface—*upon the Quantity of Gas Used to Lift Each Barrel.*

"It is natural that wells cease flowing; wells cannot flow forever; but, at the time the head goes off, and we have some work to do and much expense, we may remember that we were prodigal in the use of gas, whether compelled by competition across the line or not."

The statement made in this paper, "by computation, the stored energy contained in the estimated gas content of a field like Tonkawa is many times the quantity of energy necessary to lift the entire oil content to the surface" brought letters of further inquiry from all over the world, from producers, field men, engineers and scientists.

(To Be Continued)

[1]The Oil Weekly, August 18, 1923.
[2]The Oil Weekly, December 12, 19, 1924.

View of Brea Canyon Oil Company's lease at Brea Canyon, California

Advanced Methods *Reduce Lifting Cost at* Brea Canyon

By ART WHITE* AND BRAD MILLS

THROUGH adoption of improved production methods Brea Canyon Oil Company has greatly reduced the lifting cost on its large lease in Brea Canyon at the same time increasing the yield of many of the wells. In changing from antiquated to the most modern means of lifting oil, lease production has at all times remained well balanced.

Brea Canyon Oil Company's lease comprises a 200-acre tract in the Brea Canyon field which was one of the earliest producing areas in the Los Angeles basin. The first well on this lease was drilled in 1889 and is still producing. The bulk of the present production is obtained from producers drilled since 1923. Some of the older wells were very shallow but more recent completions were drilled well toward the 5000 foot level.

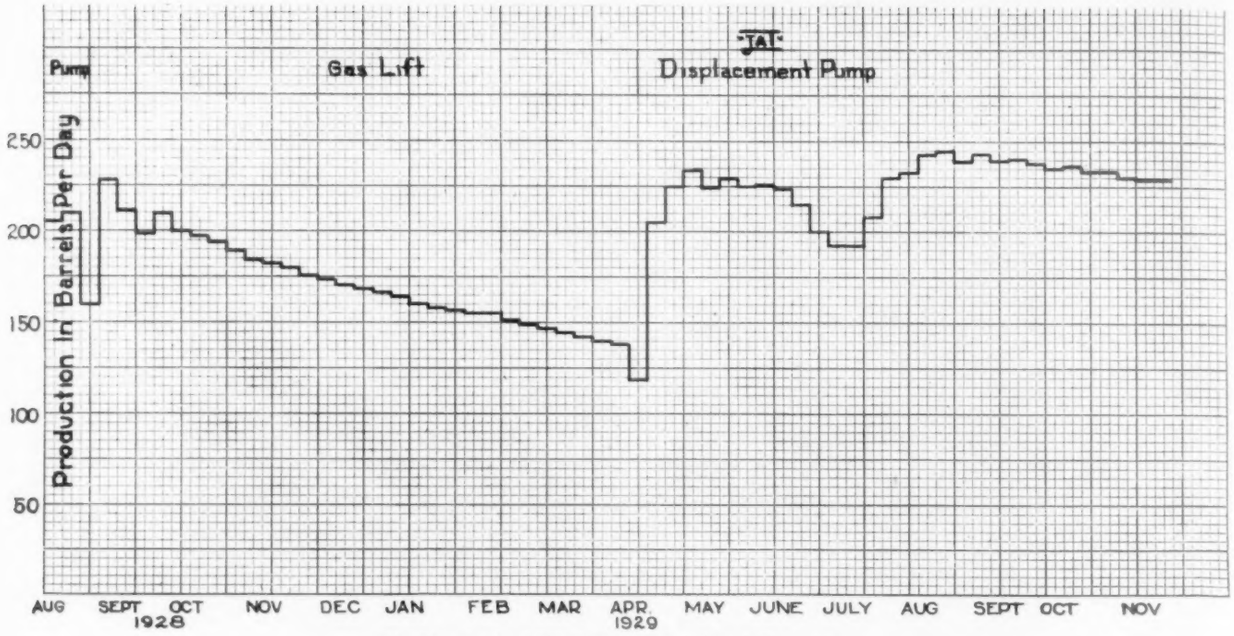
Brea Canyon, being an average field with pumping and flowing wells, has presented the usual production problems. Pulling jobs and non-producing periods necessitated by sand, water, and mechanical troubles were constantly reducing production. In an effort to stabilize production the company, more than a year ago, started experimenting with improved mechanical devices which were designed to reduce lifting costs and maintain a steady yield. There were at the time about 35 producing wells on the 200-acre lease, the producers varying in age, production, and problems to be overcome. Total production was around 2000 barrels per day, a good part of which came from flowing wells. It was evident that these flowing wells were to follow the course of the older producers and would some day stop yielding oil by natural flow. There was little drilling, so that future production must depend chiefly upon mechanical methods.

ART WHITE
Superintendent of production, Brea Canyon Oil Company

Wells in this field may be classified with those in any other field in that their life may be divided into three periods. These are ordinarily called "natural flow," "forced flow," and "pumping." In the first period the Brea Canyon wells showed a high fluid level, high rock pressure, low gas-oil ratios and all of the factors with which to work in obtaining efficient production. During this time there was no necessity for expensive shutdowns and the oil was obtained at low cost.

In the second or "forced flow" period the fluid level was much lower, rock pressure considerably dissipated and

*Superintendent of Production, Brea Canyon Oil Company.



Weekly chart of Well No. 4, showing daily average

several helpful factors which were present in the first period were absent. In order to obtain a low gas-oil ratio it was necessary to inject gas into the well from the surface to lift the oil, rather than spend the formation gas needlessly. In reality, during the forced flow period the Brea Canyon Oil Company was doing nothing more than prolonging the life of the "flowing period," which was only a natural consequence based upon economy and ultimate return from the sands.

Expense of Third Period

But the third stage arrived and it was necessary to find other means of lifting the oil. In this period the pressure necessary to lift the oil approached the rock pressure and the diminishing differential between the two did not permit maximum ingress of oil into the hole. Thus the pumping stage arrived as it inevitably does in any field.

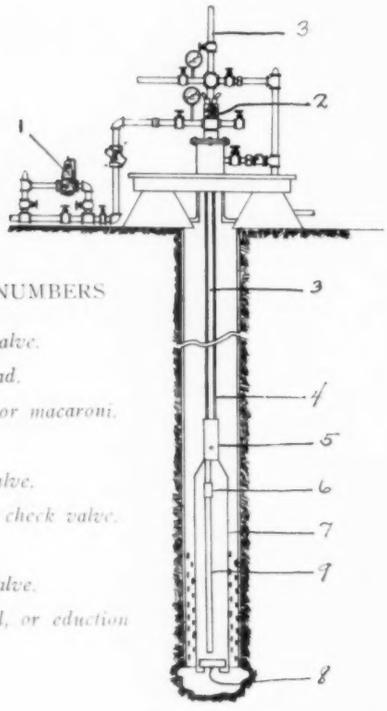
Until recently, the Brea Canyon Oil Company stepped into this stage by trying rods, pumps, rig irons, engines, and other equipment necessary to placing wells on the pump. This involved an added expenditure of from $3000 to $5000, leaving the "forced flow" equipment to be salvaged or put to other uses. This new expense and the disposition of the obsolete material was partially responsible for the excessive lifting cost.

Brea Canyon Oil Company's lease has attracted wide attention due to the unique method of production. Production engineers from both large and small companies have been attracted by the low lifting costs obtained and the revolutionary methods employed.

The company realized the necessity for new equipment but had been forced to fall back upon the older methods. Although the pumping equipment on hand was serviceable and much of it gave promise of lasting the life of the well, the lifting costs made its use almost prohibitive. After considerable thought the "Jat Displacement Pump" was installed as an experiment. The new method was a radical departure from ordinary pumping. The installation was made at a cost of about $2000 and has since proved to be a permanent investment.

Displacement Pump

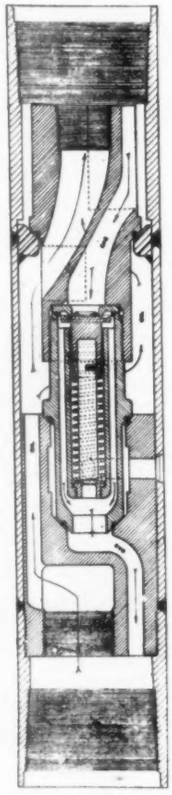
Brea Canyon Oil Company was among the first to install the displacement pump although the surface equipment has been used extensively in other fields to control the intermittent injec-



KEY TO NUMBERS

1. *Magnetic valve.*
2. *Packing head.*
3. *Flow tube or macaroni.*
4. *Tubing.*
5. *Chamber valve.*
6. *Blind cage check valve.*
7. *Chamber.*
8. *Standing valve.*
9. *Skeeter bill, or eduction tube.*

Sketch of JAT gas displacement pump installation as used by Brea Canyon Oil Company



"Oilift" displacement pump valve as set in hole

tion of gas. A brief description of the equipment will better explain its operation and give the reader a more complete picture of the well installation. In describing the action of the first displacement pump installation it is necessary to assume the existance of a compressor, a high pressure lead line to the well, a return line to the compressor from the gas trap, and a string of tubing in the hole. This normally constitutes the equipment which has been used to produce by forced flow.

The displacement pump consists of five parts. A magnetically operated valve was installed in the high pressure lead line near the well. This valve is controlled by the Gastributor which is located at some centrally located point. In the Gastributor or timer a variable speed motor rotates an arm that makes or breaks contacts that are connected to a panel, this panel being merely one of the sides of a metal box encasing the machinery. Another panel facilitates the regulation of the timing intervals. A wire was run from the Gastributor to the magnetic valve so that the opening and closing of the circuit controlled the injection of high pressure gas into the well.

The well was pulled and bailed, after which the fluid in the hole was weighed with a depth bomb which may be obtained from the manufacturers of this new type of pump. This step was necessary to determine the length of chamber to be used. This chamber, consisting of flush joint casing with a standing valve in the bottom, is made up and connected to the bottom of the "shell" of the "chamber valve." The top of the shell is made up to the tubing and the entire system run in and landed as near the bottom as possible, depending upon the conditions in the hole. The shoe of the chamber valve containing the valve mechanism is run in on a macaroni string. The macaroni string is the eduction tube which delivers the oil from the chamber to the trap on the surface. The seating of the shoe with its three lead seats in the shell forms the fluid and gas passages of the chamber valve.

The method used to start the well was to employ the regular force flow system while the shoe was still held off seat. When the system was cleaned and the fluid level had been lowered to a point where the pump would handle it without excessive pressures the shoe was seated and the pump was operated manually. When the necessary "on" and "off" periods had been determined the Gastributor was set for these periods and the well controlled by the timer.

During the "on" period gas is passing into the well between the two strings of tubing, through the pump valve to the top of the fluid in the chamber. The fluid, already trapped in the chamber by the standing valve has no other way to go than up a "skeeter bill" which extends from the

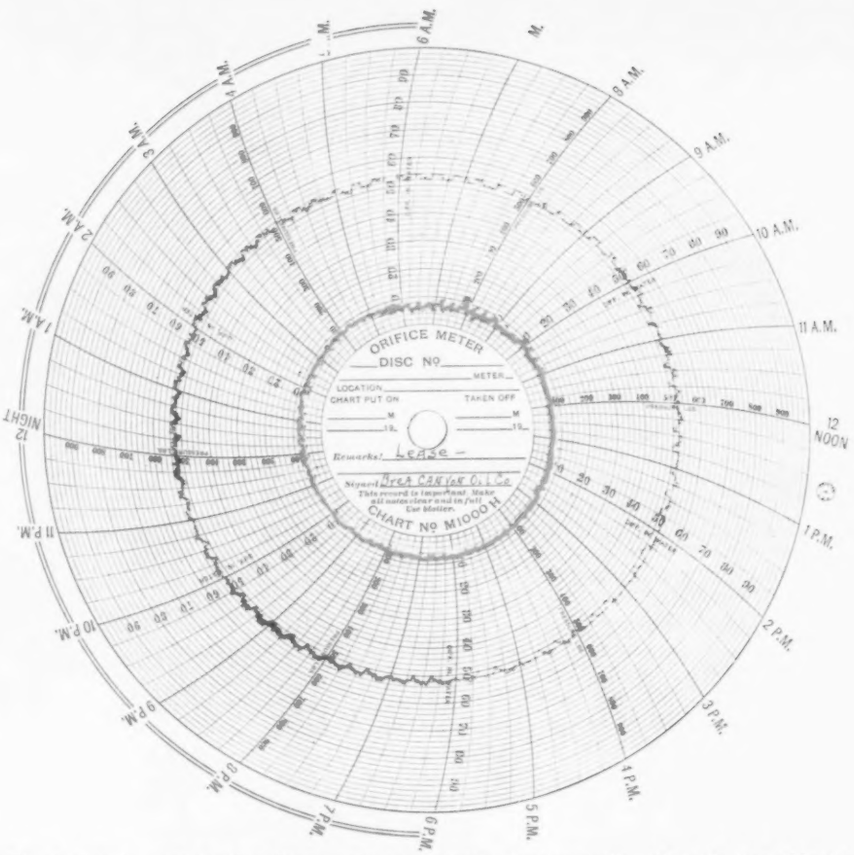
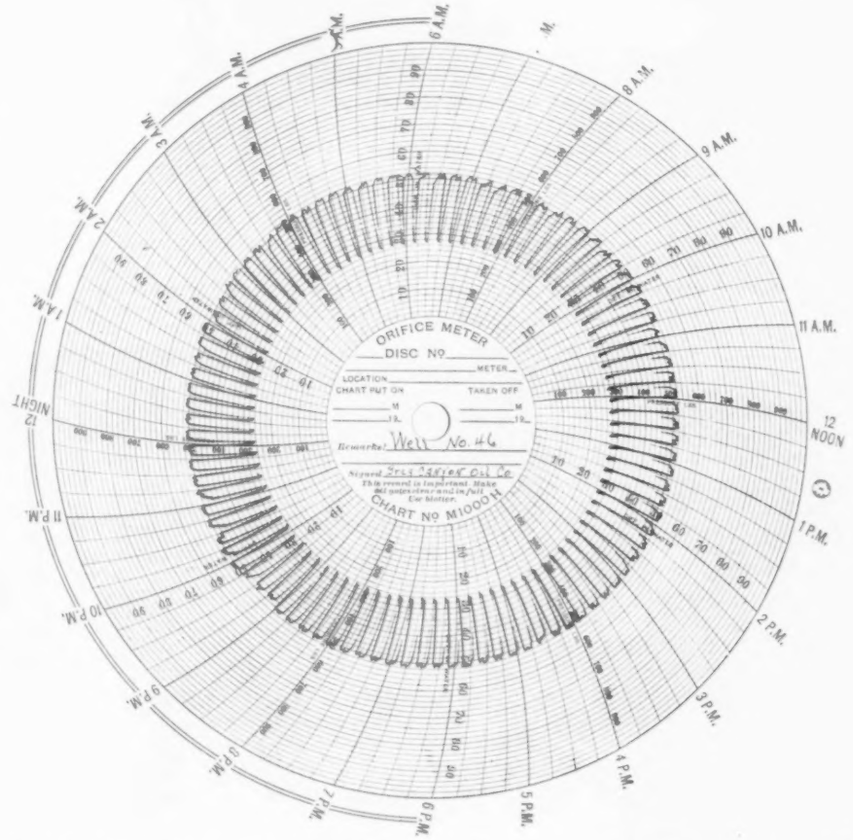


Chart showing gas leading from main compressor plant to wells. Outside line (black) represents pressure; inside line (red) represents differential or gas volume

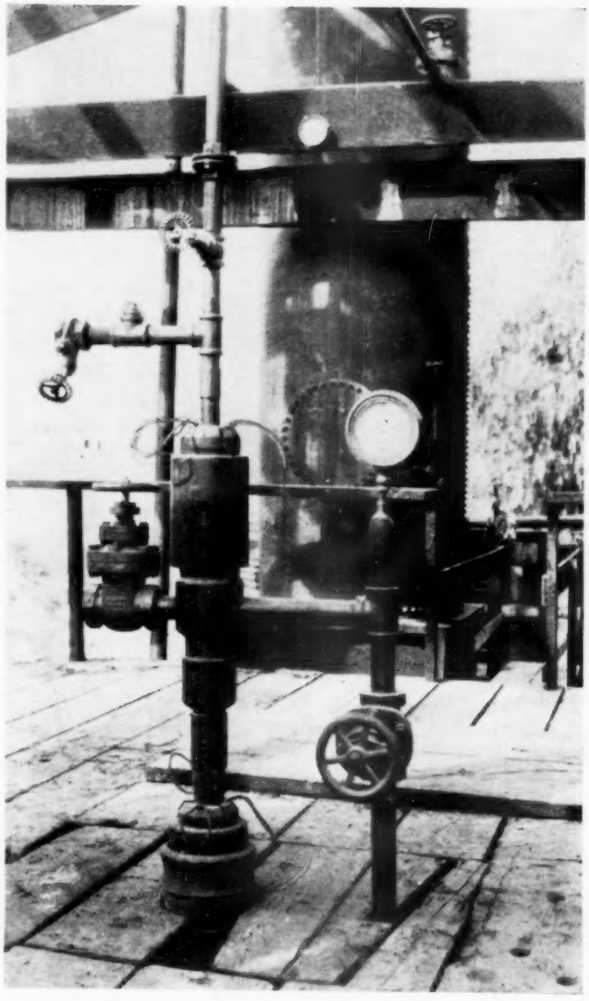


Typical chart of well equipped with Jat Gas Displacement Pump, Brea Canyon Oil Company's well No. 46. This well is receiving a "shot" every 15 minutes. The uneven line when the well is "on" is caused by nearby wells "kicking on" at the same time

fluid passage of the pump valve to within a few inches of the standing valve. The oil passes up through the skeeter bill, through the fluid passage of the chamber valve, and on up the macaroni to the trap. When the gas is "off" there is no flow of gas although a pressure is held in the annular space between the two sets of tubing from the magnetic valve on the surface to the chamber valve in the hole. This chamber, in the closed position has opened a port which allows the gas in the chamber to discharge into the casing. The pressure in the chamber must be dissipated to allow fluid to enter through the standing valve. The pressure cannot be revived through the eduction tube as a check valve in it is held closed by the gas above it expanding to force the oil to the surface.

During no stage of the pumping cycle is there any pressure exerted upon the formation. The pressure in the casing, if any is required, is governed at the surface by a back pressure regulator. The only gas escaping the system is the small amount exhausted from the chamber previous to filling and this is taken off in the gathering line with the formation gas.

There are now 30 producing wells on the lease, of which 10 have been placed on Displacement Pumps. These 10 are now producing almost 80 per cent of the lease total. The remaining wells are on forced flow or pumps. Production from the former does not exceed 150 barrels while the old fashioned pumping wells are yielding about 200 barrels. Wells taken from forced flow and placed on the displacement pump have nearly always shown good increases in production. Wells changed from the pump to the new method have not always shown an appreciable daily increase but the monthly production has been materially helped due to the lack of non-producing periods, thus reducing the lifting cost.



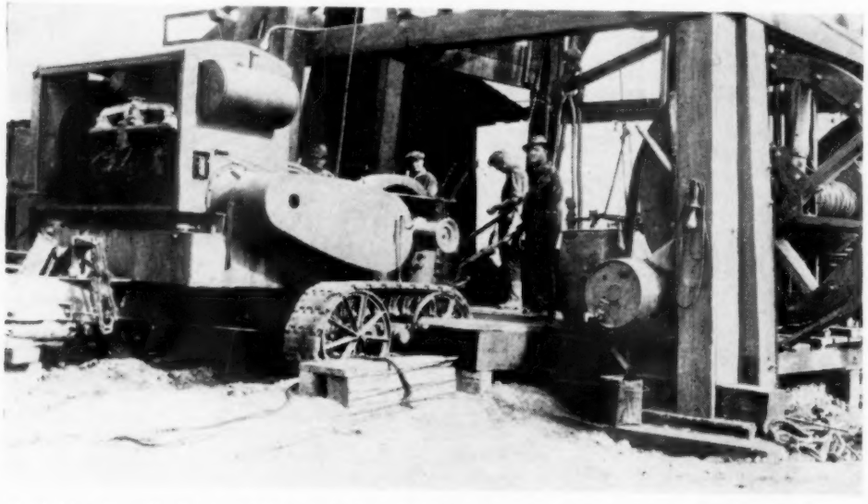
Typical surface installation of well equipped with Jat pump. Note simplicity

Lifting Costs Studied

The question of lifting cost has been carefully studied by the company. The variety of producing conditions makes it difficult to determine the cost per barrel for each well but an average of the lease shows that it is costing about 25 cents to produce a barrel of oil by this method.

The company has found that the cost of circulating gas depends upon several factors, any one of which may vary. The circulated and formation gas from all of the wells yields about 11,500 gallons of gasoline per day. The company estimates that the circulated gas yields one gallon per thousand feet which normally evaporated from the gauge tanks. The revenue from the gasoline naturally offsets part of the compression costs. The method of writing off the compressor equipment plays an important part in the average cost. The company has an accepted compression cost, however, of three cents per 1000 cubic feet for the present gas compressors. This figure holds within the limits of normal production pressures.

The amount of circulated gas necessary to lift a barrel of oil depends upon the depth of the well and the characteristics of the fluid, but it will normally fall between 1000 and 2000 cubic feet. Brea Canyon Oil Company has upward of 1800 barrels of a 2000-barrel total on the new system being produced with an average of 1470 cubic feet per barrel from wells varying in size from 25 barrels to 300 barrels per day. This is a daily circulation of 2,650,000 cubic feet.



Portable six-cylinder machine used for pulling wells, making pump installations and even drilling deeper in old wells

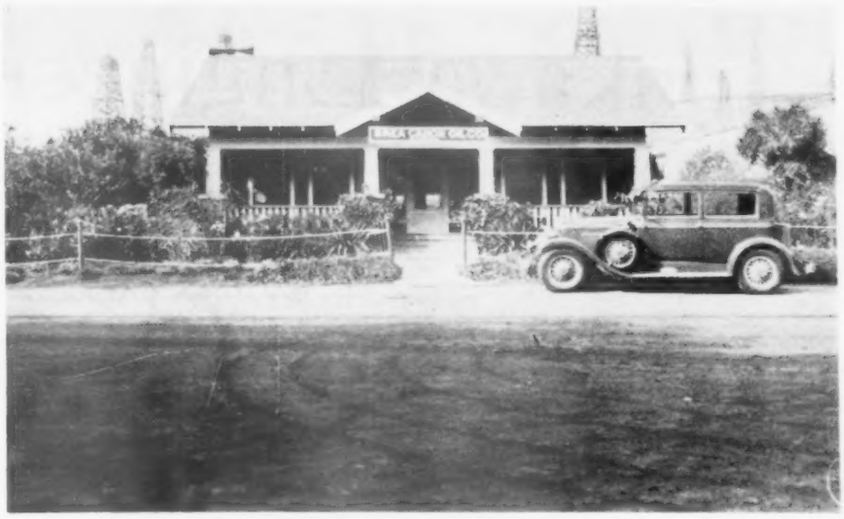
Troubles Eliminated

The elimination of such troubles as sanding up, choking from paraffin, wearing of rods and tubing, vibration of rigs and other difficulties has helped to reduce operating costs to a minimum. The necessity for pulling is very greatly reduced. One chamber was removed for inspection after nearly a year of continuous operation. The chamber valve was found to be in good working order. The valve mechanism is easily inspected by merely pulling the macaroni string. For these few pulling jobs the company has found a six-cylinder portable cleaning out machine a valuable lease investment. The machine moves from well to well under its

own power and is used more to make installations than to pull wells. The rigs are practically stripped or bobtailed and the proper dirt level permanently made so that the machine can be run alongside the derrick and immediately placed in operation. Added installations of the gas displacement pump are being made with the portable machine while it has even been used for deepening wells.

One of the chief reasons for the low cost of operation at Brea Canyon is an efficient compressor plant. A study of the daily meter chart shows a uniform pressure line as well as uniform differential or volume line. These chart characteristics make it possible to accurately determine the volume of gas to the field, to the commercial buyers, and to the gasoline plant. The line pressure is maintained slightly above 500 pounds. The pressure of the high pressure line is held constant by having this lead of ample size and installing a joint of large pipe or casing near the magnetic valve to act as reservoirs to compensate for the sudden "pull" when a valve kicks in. Orifice meters are installed on the input line and on the wet gas line to facilitate a constant check on the working characteristics of each well.

Improvements have been made since the installation of the first Gas Displacement Pump at the Brea Canyon Oil Company until at the present time there are about 50 wells in various fields producing by this system. The



Office of Brea Canyon Oil Company

first installation made on the Brea Canyon lease allowed the gas to enter through the macaroni and force the oil up the annular space. This developed excessive friction, however, so the operation was reversed, allowing the oil to flow upward against the smooth inside surface. The surface equipment of each well has been simplified to consist of slips and packing head to land the tubing and macaroni, gauges, and the necessary valves. The simplicity of design and lack of intricate parts is responsible for the long life and dependable functioning of the J Gas Displacement Pump.

Because of the unusual principles upon which the Pump works the Brea Canyon Oil Company's lease has been visited by leading petroleum engineers from all over the country. This radical departure from usual production methods has met with some doubt on the part of a few, the natural skepticism concerning new systems, but the Brea Canyon lease offers an accurate example of what may be done in other fields with similar equipment.

"Not Time Yet for Optimism" —W. N. Davis

TULSA.—This is no time for undue optimism in the petroleum industry. This was the substance of a statement, issued November 20 by William N. Davis, president of the Mid-Continent Oil & Gas Association. He singled out the fact that only a threat of demoralization of crude oil prices had brought curtailment of production; also that the amount of oil being withdrawn from storage is trivial.

He called attention to the fact that existing proration agreements will expire in several areas and that it may be even more essential that these agreements be extended than it was that they be made.

His statement follows:

"The oil industry throughout the United States is displaying a wonderful spirit of co-operation, but it was not until a combination of overwhelming crude stocks on hand, immense additions to those stocks made during the current year, and the threat of a veritable flood of additional new production had indicated utter demoralization of the price structure, that this spirit with its fine results developed.

"I am now beginning to hear on every hand, comments on the fact that oil is being withdrawn from storage. This is probably true in some areas and as to certain companies. I have sufficient information to convince me that such drafts as are being made are altogether trifling compared either with the enormous and entirely unnecessary amounts of crude in storage or with the amount of additional crude production which could be thrown on the market at any time.

Warns Optimists

"For many years the rank and file of the oil producers have looked upon drafts on storage as the forerunner of higher prices for crude. In my opinion there is grave danger that there may be so much comment on the reduction of storage and the balanced condition of the industry as to create an unjustifiable spirit of optimism which will weaken the unanimous support which the industry is giving to the curtailment program.

"The existing proration agreements have time limits, which before long will begin to expire, starting in Kansas next month, and in Oklahoma, January 1. It will be quite as essential at that time, and perhaps even more important than it was when the agreements were made, that the curtailment and proration programs be continued, as there will be the customary seasonal reduced demand for crude during the first quarter of the year, amounting, I believe, to some 200,000 barrels a day for the United States. If the impression should become prevalent in the industry that we have not only balanced supply and demand, but are making important drafts on stocks, without a corresponding appreciation of the fact that to maintain the balanced condition, potential production must continue to be restrained in amounts far in excess of the current reduction in stocks, there may be difficulty in securing the unanimity of action which must prevail at the expiration of the present proration agreements.

"The oil industry should keep this situation clearly in mind and be looking ahead to the formulation of plans for carrying on the constructive conservation program now in effect."

fect."

Tonkawa Engineers Discuss Results of Repressuring

By WARREN BAKER
Staff Representative

TONKAWA, Okla.—The discussion about repressuring results in the Tonkawa and surrounding fields at the November monthly meeting of the Tonkawa chapter of the American Petroleum Institute's division of development and production engineering brought out many interesting features on the topic.

Economically, repressuring is very beneficial if properly handled, since it recovers a larger percent of the crude in the sand, and at the same time it has been found that the rate of decline on repressured properties in big areas being served by repressuring is much less than the normal rate of decline. It is estimated that only from 25 per cent to 60 per cent of the oil is recovered, and repressuring with air or gas is one of the most successful methods for securing a larger percent of recovery.

Because of the success of repressuring thus far some companies plan to go in more strongly for repressuring. This indicates that in the future greater attention will be paid to repressuring. Water encroachment will probably be studied more closely, also, and it is likely that back pressure may be used against the intruding waters.

Companies are paying more and more attention to the gas-oil ratio, and in the fields of the future the practice will be to conserve as much of the gas as possible. In areas where this has been tried out it has proven very helpful in maintaining a heavier pressure, with the result that a large production has been accumulated. This can be obtained through the employment of tubing and back pressure on flowing wells.

An example of this kind was given by Ed Griswold of the Continental Oil Company. The Marland Oil Company had completed a 1400-barrel well in North Oklahoma which was flowed wide open. An offset test came in for 750 barrels, although located practically the same on the structure. The latter well was tubed while flowing and back pressure was applied. The result was that at the end of a year the smaller well had produced as much oil as the larger well, which had a greater decline. Today, the smaller well is far ahead of the bigger one in accumulated production.

Use of Key Wells

C. M. Copeland, district superintendent for the Comar Oil Company and chairman of the Tonkawa chapter, commenced the meeting. He told about the success of the Comar Oil Company at Tonkawa with its repressuring project and of the simple hook-up employed in putting the gas into the key wells. His company started repressuring in the Tonkawa field, where it has approximately 11,000 acres of leases about 2½ years ago. Since that time a careful check has been maintained on the pressure at each well, and it has been found to have increased considerable. The shut in pressure was taken on the wells before the wells were equipped for repressuring purposes. He overcame the hazard of the lines freezing up by a simple home-made heater back of the needle valves and packing with manure around the orifices.

E. R. Collins, in charge of repressuring for the Shell Petroleum Corporation, was present as the principal speaker. He confined his talk in general to the Tonkawa district. Repressuring was started in that district in 1926 by the Gypsy Oil Company, when they put one well to work taking in gas. One year later it had three additional wells. In 1927, the Comar Oil Company, subsidiary of the Shell interests, equipped six wells and used propane from its gasoline plants. In July, 1928, there were 16 key wells in the Tonkawa pool, of which the Comar Oil Company had 13. By October of that year the number of key wells had increased to 23, and by May, 1929, there were 35 key wells. In August of this year, the field had 46, with the Comar Oil Company having 36 of these. So it might be said that the Tonkawa area has been under intensive repressuring for only about three months.

Repressuring applied on the Wilcox sand, or lower producing formation, has not been as successful as on the other upper producing horizon, due to the water drive and its big inroads made before repressuring was attempted.

The Upper and Middle Hoover sands require about 2500 feet of gas to produce one barrel of oil, while the Lower Hoover needs about 1000 feet. The Tonkawa requires about 1500 feet per barrel. These figures are from the Shell Petroleum Corporation, and Griswold of the Continental Oil Company stated he didn't believe that his company had used this much. However, at 10 cents per 1500 feet this is cheap lifting cost for a barrel of oil.

The Comar Oil Company favors the use of more key wells with less volume per well. It is thought that better distribution secured by this method gives

Suggest Standardization of Winch Drum Diameters

DRUMRIGHT, Okla.—T. G. Price, assistant automotive superintendent of the Shell Petroleum Corporation at Tulsa, was the principal speaker at the regular monthly meeting of the Drumright chapter of the American Petroleum Institute's division of development and production engineering. The subject for the meeting was the use of tractors in pulling rods and tubing.

Price pointed out that a bigger horsepower tractor was needed at the present time so that 6000 foot wells might be pulled and put back on the pump within one day. He also stated that bigger drums on the winches were needed, since the small type used today gives abuse to the wire lines. He suggested that the A. P. I. urge the standardization of winch drum diameters and the line travel per minute.

The economy of tractors for pulling makes them desirable over stationary engines, according to Price. A big factor in the increasing use of tractors for pulling purposes, is that they can be used for many odd jobs around the lease, such as moving boilers, star rigs, starting motors and many other things, whereas a stationary engine can be used for pulling rods, tubing or casing only, and must remain idle when it is not necessary to do these things.

A. G. Bailey, of the Advance-Rumely Thresher Company, presented a very complete picture of the manufacture of the Oil Pull winch tractor, and later its use in the field.

The next meeting of the Drumright chapter will be December 17, at which time a banquet will be held. A committee was appointed to select a subject or subjects for discussion and plans are for the securing of several outside men to be the principal speakers on these subjects.

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better recovery and makes the pressure more uniform through the area. After placing the wells on pressure the working barrels were raised, which allowed an increase on pressure. This should prolong the life of production. At some later date it may become necessary to reset the level of the working barrels.

Method Used at South Ponca

In the selection of the key well the different horizons of production are to be considered differently. Collins stated that ordinarily the structural location was considered paramount in the Wilcox sand due to greater water drive and steep dips ordinarily present on the edges of the Wilcox structure. On the upper formations, which do not dip as sharply, the geographic location is most important.

Ed Griswold led the discussion. He stated that in the South Ponca field his Company believes that at a cost of $10,000 they have recovered 35,000 barrels of oil that they never would have recovered without repressuring. The practice used in this field, which is owned by the Continental Oil Company, was to take the first row of wells inside the water line on the 1600 foot sand and use them as key wells, and they have two key wells on top of the structure. The pressure applied on the edge wells has prevented the edge water from coming in as rapidly as on the 1800 foot sand where this method was not used. Griswold sees greater conservation of gas, so as to prevent buying it later for repressuring work.

Several years ago when a sharp drop in the oil market came, the South Ponca field was shut in for five months, during which time the application of gas for repressuring purposes continued. At the end of this time the wells were opened up at the same time and water was made for the first few weeks, after which a bigger recovery of oil was made. However, the repairing of the well more than made up for the increased recovery. Griswold believes, despite this disappointment, that this plan will work in building up pressure over any given area.

Today, residue gas taken from the gasoline plants is the principal repressuring fluid. It has been found that air is limited in many areas. Less water intrusion is also found with gas than with air, since the latter acts as a driving power and the former as a carrying agent. Another factor in repressuring is that the gas recovered is of greater value than the residue gas placed in the hole.

It was decided that the chapter would not hold a meeting in December and that a banquet would probably be held on the January meetings date, when a number of prominent speakers are expected to be present.

Oklahoma City Operators Extend Proration Agreement

TULSA.—Oklahoma City operators quickly agreed upon a method of prorating production in that field for December at a meeting in Tulsa November 21, and also took steps to see that plans are in shape for the continuing of the statewide curtailment program into 1930.

The quickness with which the motion to continue the present basic method of prorating was ratified showed clearly the success of the new proration idea. The plan is for the producers in the pool to be divided into two classes, namely "A" and "B." The "A" wells are in the northeast and southwest corners of each 40 acres, and the "B" wells are in the northwest and southeast corners. Under the plan each class of wells is opened for a set number of days, while the others are shut in.

The plan that will be followed in December is but slightly different from the one in use during November. It was changed so that a 50 per cent proration, instead of a 40 per cent would be established. All "A" wells in the field will be shut in for five days while "B" wells are flowing open, and then vice versa for the next five days.

This method of prorating has proven very successful in the Oklahoma City pool. This time proration permits no one to secure an edge in the proration of production and takes care of declines in production of individual wells between periods of potential gauges.

Field Has High Potential

If the lid at Oklahoma City were lifted, production of the field would likely reach 175,000 to 200,000 barrels within a few days. With a large number of wells below 6000 feet and others near that depth, which should be completed during January and February of 1930, the output of the field might reach 400,000 barrels, or even higher. Under the Oklahoma City proration program all new completions must remain off production for 30 days before entering the alternating time program, which further postpones any increase in production.

Production of the field is held to about 60,000 barrels per day, under the 40 per cent curtailment, and under the 50 per cent cut it probably will be slightly higher, due to using additional producers that will have completed their 30 day shut-in period. Shut-in wells under the latter classification have a potential of 90,000 barrels daily, according to Otto B. Bradford, field umpire at Oklahoma City. Included in this list is the Indian Territory Illuminating Oil Company and Foster Petroleum Company's Thomas Fuzzell 1, Section 13-11-3w, which yielded 42,982 barrels for the first 24 hours. At the present time he said the "A" wells could make 125,000 barrels daily and the "B" wells 70,000 barrels, which indicates that the potential of Oklahoma City before the end of the year will be considerably over 200,000 barrels.

At the same time, as indicated by the figures, all of the wells when on open flow do not produce to capacity, due to inability of the lines to handle all of the oil. At present there is a capacity of 66,000 barrels pipe line outlet in the field, with 45,000 barrels daily additional capacity being under construction.

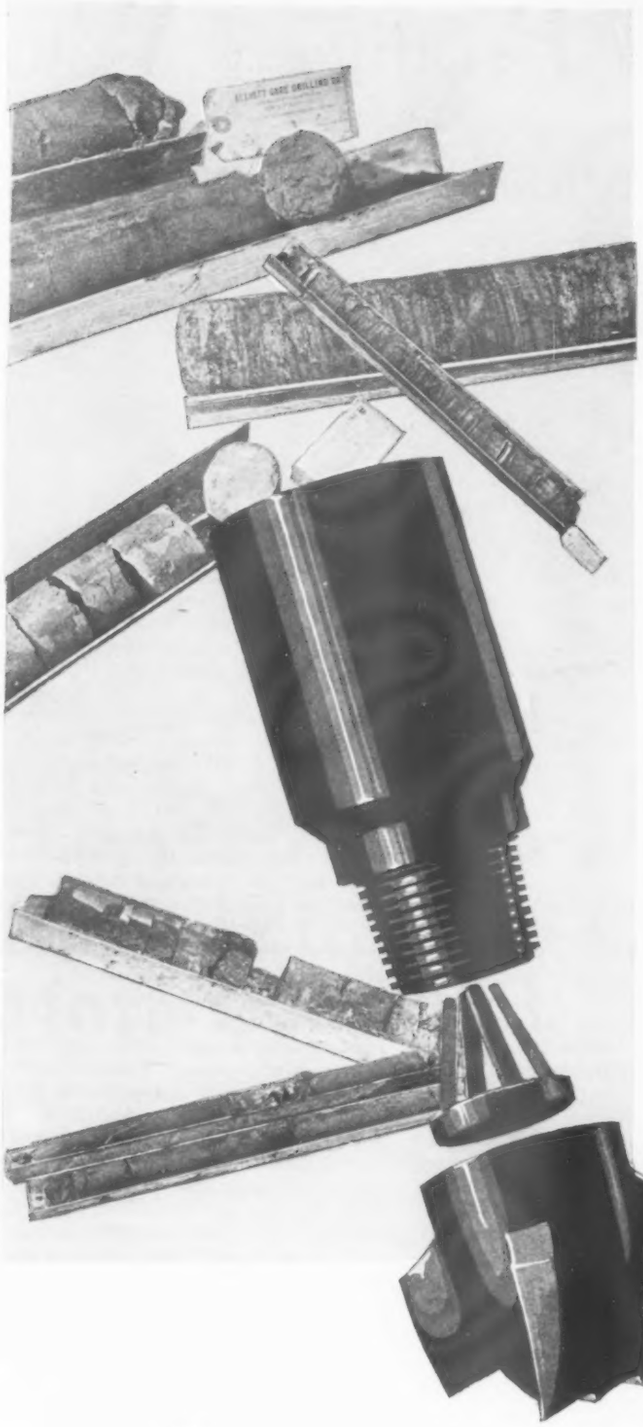
It was the general opinion that the Oklahoma City pool must not be permitted to flow open after the first of the year if the state's production was to be held to 660,000 barrels. The Oklahoma City shut down program as well as the general statewide program, expires December 31.

To Ask for Extension of Statewide Plan

Operators present at the Oklahoma City field meeting went on record as asking the Mid-Continent Oil & Gas Association's special conservation committee to reconvene and make a special study of the situation, review production and consumption and note the facilities of all Oklahoma pipe lines. A mass meeting of Oklahoma operators will be held on December 10 to discuss the problem, so that provisions for further extension of the statewide program could be drafted for presentation to the State Corporation Commission for approval. The extension will probably be desired for January and February.

Ray M. Collins, state umpire, asserted that if proration was lifted the state's production would jump to somewhere between 800,000 and 900,000 barrels per day before February 1. It must be held to 660,000 barrels daily or below to keep in line with demand.

The operators remained in session for a number of hours, but most of the time was spent in discussing the future situation, particularly as of January 1, 1930. Everyone saw the necessity of continuing the proration of production and little or no trouble is anticipated in securing ratification of plans for continuing the present proration program in Oklahoma.



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Rocky Mountain Producers Want Federal Lease Revision

Joint meeting of Oil and Gas Association and A. P. I. engineers brings large gathering to Casper

By A. J. HAZLETT

CASPER, Wyoming. — The Rocky Mountain Oil & Gas Association, the Rocky Mountain division of development and production engineering of the American Petroleum Institute, and the Rocky Mountain division of the petroleum section of National Safety Council met in Casper, November 20 and 21. The oil and gas association and the division of development and production engineering held their sessions in the Masonic Temple, while the Safety Council held forth at luncheons on both days. All three organizations joined at a banquet given Wednesday evening.

The Rocky Mountain Oil & Gas Association's resolutions were of interest and importance. Among them was a request urging the president of the United States and the secretary of the Department of the Interior to rescind immediately the Departmental Order No. 338 affecting public lands in the Rocky Mountain states. Another resolution advocated the more universal use of black oil for Wyoming highways and the advertisement of its merits for road purposes in adjoining states. A committee of three was appointed to confer with state land commissioners concerning a change in the present limited five-year term and 640-acre lease unit issued by Wyoming; it was suggested that the fundamentals of geology, mineralology and mining be disseminated through the public schools and the state university. A limit on the gasoline tax to three cents per gallon was advocated, as well as a law forbidding cities and towns in the state to levy additional tax; the several governors of the Rocky Mountain states were commended for having protected the interests of the states in connection with problems arising under the federal conservation policy.

Association Officers Elected

Officers for the association for the ensuing year will be former Governor B. B. Brooks, president; John McFadyen, first vice-president; E. B. Coolidge, second vice-president; D. W. Greenburg, secretary, and C. B. Richardson, treasurer. The board of directors for the ensuing year will be composed of B. B. Brooks, John McFadyen, W. D. Weathers, R. S. Shannon, A. G. Dana, C. B. Richardson, E. B. Coolidge, J. C. Howard, A. R. Wilson, R. W. Loucks, R. S. Ellison, R. B. Leggett, P. J. Sullivan, M. T. Rathvon, H. H. Schwartz, A. D. Aitken, and Charles Orchard.

Former Governor B. B. Brooks, president of the Rocky Mountain Oil & Gas Association, called its first session to order Wednesday morning. He spoke about the isolated position of the Rocky Mountain states as an oil and gas producing section of the country and stressed the fact that many of the problems of the territory are local and connected only indirectly with the great oil and gas industries of the country. Then he pointed out the benefit accruing to members of the association by meeting in such a convention and exchanging ideas having to do with their problems of producing, leasing, transporting, refining and marketing.

The first formal paper of the day was delivered by R. D. Hawley, geenral counsel for the Continental Oil Company. His subject was "Public Land Problems," and in covering it Mr. Hawley had delved into the history of the public land question from the time of the discovery of America to the present so-called oil conservation policy of the Hoover administration. Judge A. C. Campbell of Cheyenne lead the discussion on the paper and advocated necessary legislation in Wyoming and constitutional changes if necessary, looking toward a longer period of state leases, a reduction in charges, and the permission of leasing land in larger units than 640 acres.

Salt Creek Deep Sand Development

A paper on oiled roads in the intermountain region was delivered by Dr. S. H. Diggs, director of research for the Standard Oil Company of Indiana. Dr. Diggs presented a good case for this new method of road building, and predicted a much wider use in the future. He gave many facts and figures. C. H. Bowman, state district highway engineer, discussed the paper, and gave a history of the use of road oil in highway construction in Wyoming.

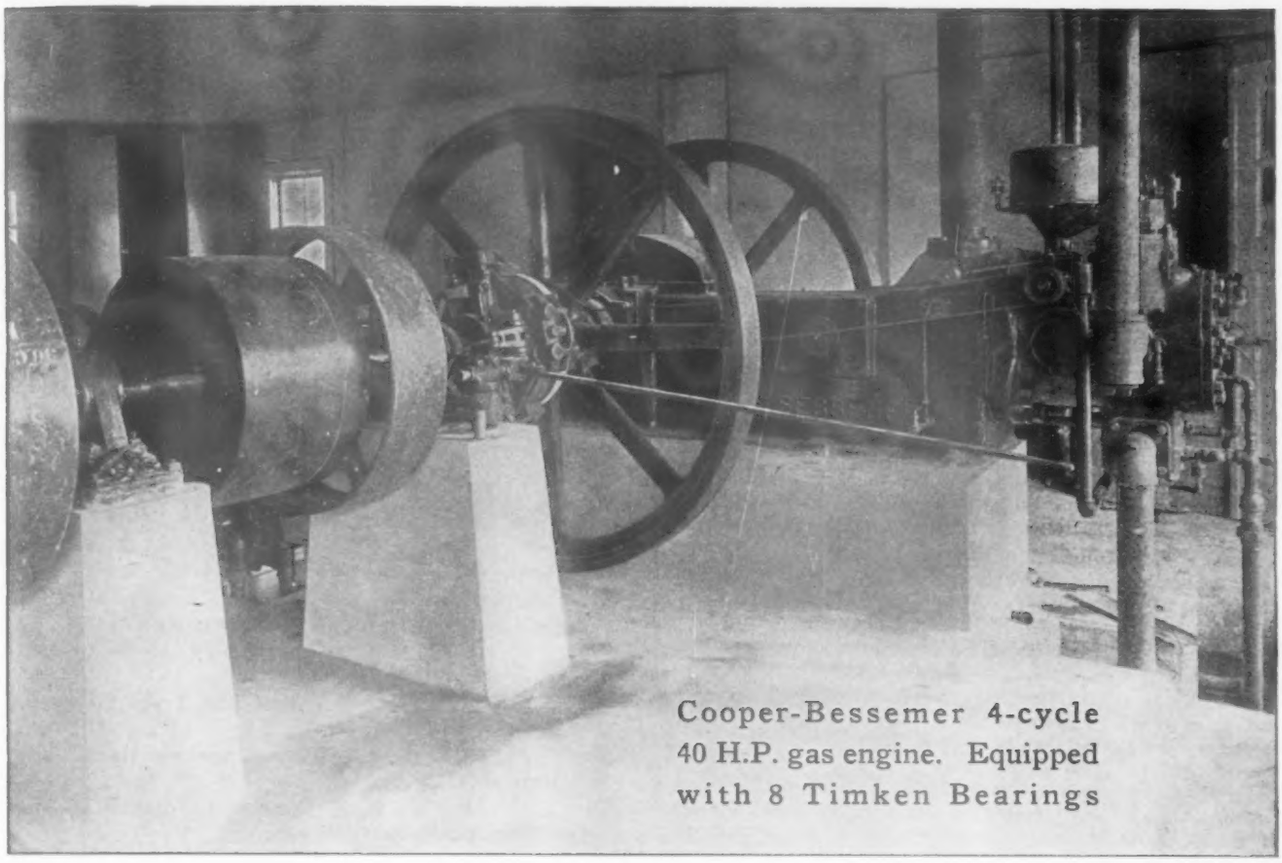
At noon the luncheon was given over to the Safety Council, and papers were delivered by R. S. Ellison, vice-president of the Midwest Refining Company, George W. Jarvis, general manager for the Wyalta Oil Company in Wyoming. Mr. Ellison talked of his company's experiences in safety work, and pointed out its benefits in both humanitarian and a business light; his subject was "Results Obtained in Safety Through Proper Leadership." Mr. Jarvis' paper was on "Relation of Accident Prevention to Compensation and Medical Costs."

On Wednesday afternoon the Rocky Mountain division of development and production engineering, American Petroleum Institute, met with R. S. Shannon presiding. "Deep Sand Development, Salt Creek Field," was discussed by C. D. Buffett, petroleum engineer of the Midwest Refining Company in the Salt Creek field. It dealt largely with production from the Dakota, Lakota, and Sundance series. The second paper of the afternoon was "Metallurgy of Steel in Equipment" by J. H. Reece, metallurgist of the Colorado Fuel & Iron Company of Pueblo. His talk was illustrated with photographs.

The annual banquet was an excellent one, served to 150 persons, after which a most amusing program of extemporaneous addresses was given. Former Governor B. B. Brooks acted as toastmaster for the occasion. Among other ideas he put forward he stated, "I sometimes feel that over-taxation of grazing lands and oil lands is creating a situation that may kill the goose that lays the golden egg." Many remarks of various speakers during the evening dealt with the conservation of petroleum. One speaker said, "It seems, to date, that all of the oil conservation being carried on in this country is being exercised in localities where such conservation already was in practice."

Pressure Control Paper

The American Petroleum Institute was in charge of the program again on Thursday morning, and W. W. Moore, production engineer of The Texas Production Company, presented his paper "Importance of Pressure Control on Small Flowing Wells"; this was illustrated by graphs and maps, based on observations and experiments with wells in the Moffat field, northwestern Colorado. Mr. Moore reported that his company had been very successful in the use of pressure control. F. M. Cole, assistant petroleum engineer of the United States Geological Survey in the Salt Creek field, talked on "Improved Recovery Methods in Salt Creek." He took occasion to compliment the va-



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TIMKEN *Tapered Roller* **BEARINGS**

rious companies operating in the field on their production method and willingness to cooperate with the Survey.

At luncheon R. M. Andrus addressed the National Safety Council session on "Safety at the Refineries." Mr. Andrus is superintendent and manager of the Standard Oil Company of Indiana Plant No. 1 at Casper.

The Rocky Mountain Oil & Gas Association assumed charge of the closing sessions on Thursday afternoon. J. W. Steele, supervisor of the mineral leasing division of the United States Geological Survey, talked on unit operation. Mr. Steele gave a brief history of the subject and called attention to the plan's use in the Rocky Mountain states. He also, as had Mr. Cole in the morning, complimented operators in this territory for their willing cooperation in putting the oil and gas fields into a sane and orderly development, with a minimum of waste.

W. F. Wilkerson, president of the Casper Chamber of Commerce, and president also of the Wyoming Automotive Company in Casper, presented a paper which was very well received, the closing one of the program. It was on the gasoline tax; Mr. Wilkerson believes that that there should certainly be a reasonable sales tax on gasoline, but he insists that the revenue therefrom should be used exclusively in the construction and maintenance of highways. Mark O. Danford of the Midwest Refining Company and Z. E. Sevison, state highway superintendent for Wyoming, both discussed Mr. Wilkerson's paper following its delivery.

Following is a list of those registering and in attendance at the various meetings:

A. D. Atkin, Salt Creek Producers Association, and Midwest Oil Company, Denver.

John I. Burdick, Colorado Fuel & Iron Company, Casper.

W. W. Boyer, Consolidated Royalty Oil Company, Casper.

George T. Bradley, Continental Oil Company, Casper.

Frank M. Brooder, Dallas Dome Oil Company, Lander, Wyoming.

J. G. Bartram, Midwest Refining Company, Casper.

Ivan L. Bean, Fisher & Lowry, Denver.

B. B. Brooks, Con-Roy Oil Company, Casper.

A. Baker, Ohio Oil Company, Casper.

C. D. Buffett, Midwest Refining Company, Midwest, Wyoming.

F. W. Cooper, The Texas Corporation, Casper.

George W. Cull, Oil Well Supply Company, Casper.

H. F. Crocker, Mountain & Gulf Oil Company, Denver.

A. C. Campbell, Midwest Refining Company, Cheyenne.

C. Clymer, National Supply Company, Denver.

J. B. Cleary, Midwest Refining Company, Casper.

J. G. Dyer, Continental Oil Company, Columbine, Wyoming.

M. O. Danford, Midwest Refining Company, Casper.

R. S. Ellison, Midwest Refining Company, Casper.

R. W. Foege, American Steel & Wire Company, Casper.

R. E. Fry, Midwest Refining Company, Casper.

A. G. Fidel, Midwest Refining Company, Casper.

W. L. Greiner, Midwest Refining Company, Denver.

P. B. Garoutte, American Steel & Wire Company, Denver.

Fred Goodstein, American Iron & Metal Company, Casper.

D. W. Greenburg, Midwest Refining Company, Casper.

C. A. Haupton, U. S. Geological Survey, Casper.

A. Hennebeck, Argo Oil Company, Hamilton Dome, Wyoming.

P. G. Hardie, Midwest Refining Company, Midwest.

W. H. Hoffman, The Texas Corporation, Casper.

C. F. Holden, Mine & Smelter Supply Company, Casper.

J. S. Hawley, Midwest Refiining Company, Casper.

Robert D. Hawley, Continental Oil Company, Denver.

P. W. Hennessy, Illinois Pipe Line Company, Casper.

F. K. Harris, Lee C. Moore & Company, Casper.

W. E. Hogan, Argo Oil Company, Lance Creek, Wyoming.

G. H. Jacquest, Midwest Refining Company, Casper.

Geo. W. Jarvis, Wyalta Oil Company, Casper.

D. L. Jones, Continental Oil Company, Denver.

C. W. Jones, Midwest Refining Company, Midwest.

J. F. Kiser, Parkersburg Rig & Reel Company, Casper.

A. C. Keyes, Keyes-Butler Tank Company, Casper.

M. J. Kaplan, Casper.

D. A. Klemme, Midwest Refining Company, Midwest.

J. A. Leary, C. B. & Q. Railway, Casper.

Julian Lever, C. & N. W. Railway Company, Casper.

W. H. Lovesy, Utah Oil Refining Company, Salt Lake City.

John McFadden, Ohio Oil Company, Casper.

B. F. McCann, Midwest Refining Company, Denver.

M. J. Mullally, W. S. Barnickle Company, Casper.

H. Mahn, National Tube Company, Denver.

E. E. Millikin, Marion Machine, Foundry & Supply Company, Cody, Wyoming.

A. S. Manning, Petroleum Rectifying Company of California, Cody.

W. W. Moore, The Texas Production Company, Denver.

H. G. Naylor, Midwest Refining Company, Denver.

W. T. Niles, C. & N. W. Railway Company, Casper.

K. B. Nowels, U. S. Bureau of Mines, Laramie, Wyoming.

G. H. O'Donnell, Moody-Seagraves Company, Casper.

C. B. Richardson, Western Exploration Company, Casper.

M. T. Rathvon, Argo Oil Company, Casper.

Pat Royce, Casper.

J. H. Reece, Colorado Fuel & Iron Company, Casper.

C. W. Sparr, Consolidated Royalty Company, Casper.

Z. E. Sevison, state highway superintendent, Cheyenne.

W. R. Shepherd, Casper Supply Company, Casper.

T. N. Shaw, Midwest Refining Company, Midwest.

F. H. Smith, Williamsport Wire Rope Company, Casper.

E. A. Swedenborg, U. S. Geological Survey, Midwest.

F. M. Sykes, The Texas Corporation, Denver.

W. H. Strang, U. S. Geological Survey, Casper.

R. S. Shannon, Continental Oil Company, Denver.

Paul D. Steele, Hazard Wire Rope Company, Denver.

D. E. Straitiff, Empire State Oil Company, Casper.

D. C. Showman, Midwest Refining Company, Casper.

F. B. Taylor, state oil and gas inspector, Casper.

C. A. Trexel, Naval Petroleum Reserve, Casper.

W. F. Van Loenen, Petroleum Rectifying Company, Casper.

P. G. Weidner, Midwest Refining Company, Casper.

J. E. Wall, U. S. Geological Survey, Midwest.

Fergo E. Wood, Midwest Refining Company, Casper.

F. G. Wagoner, Marion Machine, Foundry & Supply Company, Billings, Montana.

W. D. Weathers, Fargo-Western Oil Company, Casper.

H. C. Waddington, Wyoming Association Oil Company, Denver.

C. O. Wertz, state oil gauger, Cheyenne.

A. R. Wilson, The Texas Production Company, Denver.

M. C. Weisman, oil operator, Casper.

W. F. Wilkerson, Wyoming Automotive Company, Casper.

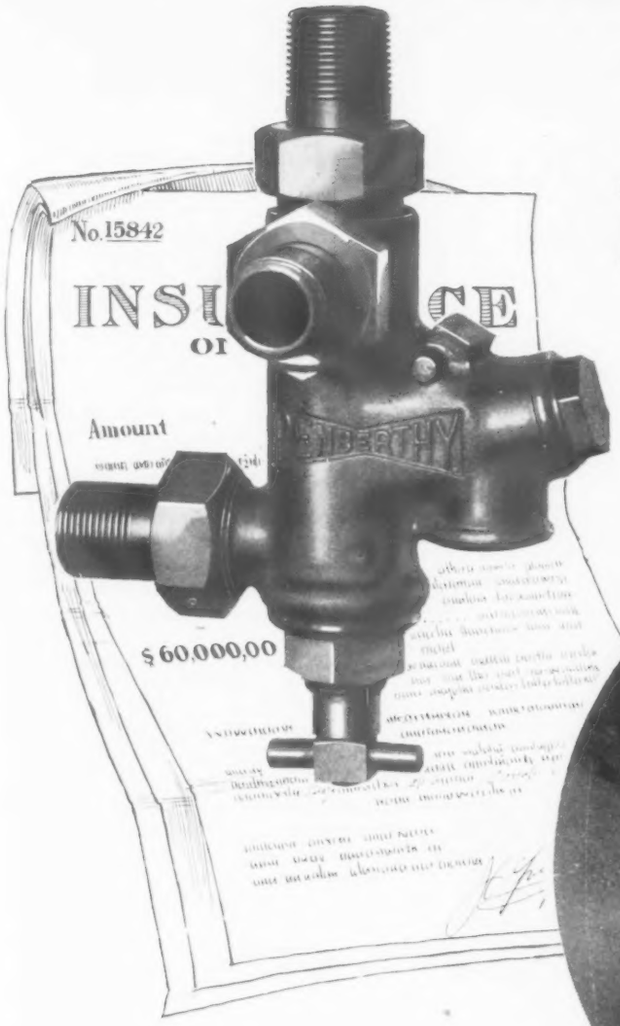
L. D. Williams, Continental Supply Company, Casper.

H. W. Young, Midwest Refining Company, Midwest.

J. J. Zorichak, Midwest Refining Company, Casper.

W. D. Pasco, Mid-Northern Oil Company, Casper.

A. J. Hazlett, Inland Oil Index, Casper.



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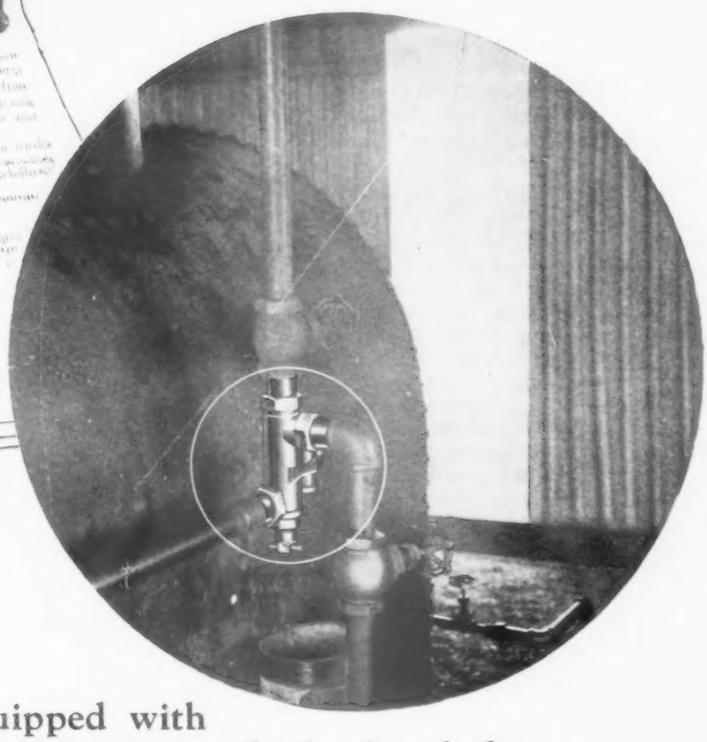

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Rapid Drilling Keeps Santa Fe Springs a Sore Spot

By BRAD MILLS
Staff Representative

LOS ANGELES.—The crude structure in California is still considerably below normal and, despite recent corrections through radical reductions in critical fields, danger lies ahead unless the state total is held around 650,000 barrels. The situation is fairly well in hand but it is becoming increasingly difficult to hold production within hailing distance of the maximum set at the beginning of the present curtailment program. Becoming an alarmist and predicting another cut in crude prices in the critical fields probably would do no good, but there is a firm belief in some quarters that if the situation gets out of control at Santa Fe Springs, Long Beach and Elwood there will be another adjustment of prices.

The situation in California is still "touchy," due to a long period of overproduction, and the market can not stand as much abuse in the future as it has in the past. Principal purchasing companies have been criticised for the recent drastic price reductions, but it is a foregone conclusion that the latitude granted before the slash was made will not obtain in case of another orgy of overproduction. The industry will gradually recover and gain much of the ground lost if the spirit of cooperation which was responsible for the restoration of former posted prices at Santa Fe Springs continues; but a gradual disregard of the allowable totals in the critical fields will certainly lead to trouble.

Santa Fe Springs Still a Sore Spot

Completion of new wells at Santa Fe Springs is causing the umpire much worry, while the excess production during the last and present 15-day period is slightly top-heavy and could ultimately lead to more serious consequences. When a company over-produces, the excess is taken from its allowable in the following period. If this excess grows over more than one period, the operator may find himself confronted with an allowable figure which is only a small percentage of his potential. The penalty may become so heavy in case new wells are completed that an operator would have no production allowed during a period. This condition is theoretical, but in the case of a few smaller operators such a circumstance is far from impossible. One company had an allowable figure of about 600 barrels during a 15-day period. A large well was completed during the period and is flowing three times the amount the lease rates. According to the agreement signed by all operators, this particular company may be confronted with a negative production during a future period.

There is no apparent desire of any operator to disregard the agreement at Santa Fe Springs, but the natural conditions in the field, brought on by the completion of large wells, have been aggravated considerably and penalties for excess production may easily lead to friction. An operator confronted with a sizeable penalty may even find it difficult to explain to royalty interests the reasons for radically reduced production during subsequent periods.

Too Much Drilling Is Trouble

An effort is being made to make some adjustment on the completion of wells in the Clarke zone. These completions are fairly well grouped, with a large number scheduled for the next few weeks. Curtailment at Santa Fe Springs would be a much simpler matter if a satisfactory arrangement could be made along this line. The real trouble lies in the drilling of wells and only a reduction of this activity will permanently remove the constant threat of overproduction. When an operator has spent $175,000 to drill a well to the Clarke zone, the natural desire is to produce it and obtain a return on the investment. Large and small companies are equally guilty in this respect.

Royalty owners are urging the largest possible production on a few leases, apparently failing to realize the necessity of holding down the yield to the allowable figure. The majority of leaseholders are abiding by the agreement.

The theory that wells shut in or beaned down will lose much of their life and fail to respond to a maximum flow at some future date is being voiced, but this argument has been satisfactorily offset by the fact that one barrel of oil under the present price schedule is worth more than two at the reduced prices which prevailed for a short time. In addition, there is reasonable hope that the remaining oil will be recovered over a long period of time. Lukewarm operators are skeptical, but it must be admitted that they got in step when the situation looked darkest.

Crude prices were restored to the former level at Santa Fe Springs when it was apparent that field production would be reduced to 150,000 barrels. It is only natural that it will be more difficult to hold the field to the minimum figure than to have got it there in the first place, with a price increase as the reward.

Nearly 50,000 barrels of new oil has been added since curtailment became effective, so it is evident that the problem of controlling production is far from an easy one. These new wells may ultimately mean that the allowable figure will fall short of half the potential. The natural decline is smaller with wells pinched in and many shut down, while the new oil from the Clarke zone should considerably more than offset this smaller decline.

Long Beach Fears Water

Problems at Long Beach are even more varied than at Santa Fe Springs, although some are of a much less serious nature. Where an operator has one or two small pumping wells, it has been a difficult matter to meet the reduction without shutting down at least a part of the producers. Average well production is small and methods used in reducing flowing wells can not be employed successfully in this field. Several new wells have been completed and much of the excess should be attributed to these producers. The fear of water encroachment, should wells be completely shut down, is being entertained, especially among operators who are producing edge leases. With 217 operators in the field, some trouble is expected. Production is running about 110,000 barrels, or fully 10,000 barrels over the allowable figure, but an order to make a cut of 45 per cent. has been made, in order that the maximum allotted production may be reached without difficulty.

Pipe line companies are expected to take only the allowable amounts, but a strict adherence to this rule will be difficult. Where contracts call for more oil than may be produced under the curtailment program, friction will arise. The fairness of all concerned will be the chief guide in the disposition of problems arising over crude contracts. The good of the industry seems to depend more upon obedience of the umpire's orders than upon demands for deliveries above the allowable figure.

New completions at Elwood have been reflected in a higher field production than the desired total, but efforts are being made to reduce the field by at least 30 per cent. Barnsdall Oil Company and Rio Grande Oil Company have made a substantial reduction and will make further concessions to bring the field to the proper level. Elwood is becoming a major market factor and a still larger production is anticipated.

California, through the State Mining Bureau, suffered a reversal in connection with enforcement of the gas conservation law in the Ventura field last week, when the district board of oil and gas commissioners set aside R. D. Bush's order affecting the field and established one which was intended to be more equitable. Bush,

state oil and gas inspector, may appeal to the Superior Court at Ventura to establish gas-oil ratios and maximum waste allowances more to the liking of the state, but there is some doubt that this will be done. The new order established by the commissioners follows:

Commissioners Issue Order

"(1) That an unreasonable waste of natural gas is in existence in the Ventura oil field and an unreasonable waste of natural gas is threatened to be continued indefinitely in the Ventura oil field.

"(2) It is ordered and directed that such unreasonable waste of natural gas should be discontinued and refrained from.

"(3) That for the most efficient and economical operation of the Ventura oil field a working surplus to cover the difference between high and low peak demands of maximum available gas outlets during any day or week or month and a measuring tolerance which includes all line leakage between wells and traps shall not be considered unreasonable waste, providing this working surplus and measuring tolerance does not exceed 10 per cent. of the total maximum available gas outlets of the Ventura oil field during any day or week or calendar month.

"(4) That the order issued by the State Supervisor of Oil and Gas on October 3, 1929, is hereby set aside and is hereby superseded by the foregoing order.

"This decision of said Board of Commissioners of oil and gas district No. 2, shall herewith be filed with the State Oil and Gas Supervisor of the State of California, and upon such filing shall be final, and become effective December 21, 1929."

Attorneys for certain operators in the Long Beach field succeeded in having postponed until December 17 action on the state's order to show cause why an injunction should not be issued, restraining all operators from wasting gas in the field. The case was called before Superior Judge Hazlett at Los Angeles, November 21, and is almost identical with that pending against Santa Fe Springs operators.

Total stocks of crude and all products in California increased 4,659,722 barrels during October, bringing the grand total of all products to 184,844,544 barrels, or an increase of 44,843,650 barrels since January. Refinable crude stocks increased 2,017,156 barrels during October, while heavy crude stocks, including all grades of fuel jumped 1,589,669 barrels. Gasoline storage increased 961,250 barrels, with naphtha distillates jumping 219,087 barrels. Both light and heavy crude stocks are now at a peak for all time.

Operation Committee to Be Appointed Soon

Dallas, Texas.—E. T. Moore, president of the Simms Oil Company and president of the Texas Division of the Mid-Continent Oil & Gas Association, announced here November 22 that a committee of 10 oil men who are posted on conservation work and unit plan operation would be appointed soon to co-operate with operators in bringing about a healthier condition within the industry in Texas.

Oklahoma Wildcat Tests Have New Objective in Arbuckle

By WARREN BAKER
Staff Representative

OKLAHOMA oil operators have a new and deeper objective horizon for their drilling tests. It is the Arbuckle limestone, the producing formation in the Oklahoma City field. No longer will wildcat tests be considered a thorough test of a district until they have penetrated and tested the Arbuckle lime. This means that the Wilcox sand will no longer be the objective of practically all wildcat tests, but instead that it will be tested as any other sand, with the hole carried deeper to the Arbuckle if nothing of commercial production value is found in the Simpson or Wilcox sand.

The finding of gusher proportion production in the Arbuckle limestone, which lies beneath the Simpson series, and just above the granite, at Oklahoma City is one of the most important discoveries in recent years in the oil history of the Sooner State. If other similar major Arbuckle lime pools are found, the importance of the strike will become even greater.

Production had previously been found in the Siliceous and Turkey Mountain horizons in northeastern Oklahoma. These formations are a part of the Arbuckle limestone, but their producing qualifications had never been such as to cause the operators to look upon them as an objective point for drilling operations.

Discovery Accidental

It was partly by chance and luck that the discovery well at Oklahoma City penetrated the Arbuckle or Siliceous lime. There was no intention of it doing so, and it probably would never had been carried to that formation by its owners had the Wilcox sand been found. Territory Illuminating Oil Company and Foster Petroleum Company were drilling their Fee 1, C SE SE Section 24-11-3w, with the Wilcox sand as its final objective. A lime formation was entered at 6193 feet, then thought to be the Hunton lime. The hole was deepened but failed to find the bottom of the lime, then came a change in the formation of the lime. This was the first indication that the formations were not running correctly. A study of the formation by geologists proved it to be the Siliceous or Arbuckle, which meant that the Wilcox sand was not present. The test was practically given up at this point. A good show of oil and gas was found at 6373 feet, still in the lime. It was quite surprising that the well came in for 6000 barrels initial on December 4, 1928, from the Arbuckle lime. Thus by chance the state's drilling practice entered a new era, one with a new and deeper horizon as its objective.

Geologists do not know as much about the Arbuckle limestone and its general run throughout the state as they would like to know. A most important phase to be determined is the approximate amount of intervening space between the top of the Simpson series and the top of the Arbuckle lime in sectors where a full section of the Simpson and other formations are to be found, and whether, if a full section is found, it will throw the Arbuckle so low that it will not carry oil.

The finding of big production at Oklahoma City in the Arbuckle limestone has prompted the Gypsy Oil Company to set out to answer several of these questions or points of doubt. This company is drilling its Barkus 9, Section 6-8-6, in the Mission field of the Greater Seminole district, to the Arbuckle. It will be the first test in the Seminole area to go below the Simpson series, and the first one in central Oklahoma, as far as known, to go below that point. It is already several hundred feet in the Simpson series. This test ranks as the most important test drilling in the state today.

Another feature that will influence deeper drilling practice in the state has come as a result of the finding of a very thick body of Arbuckle at Oklahoma City. Some of the wells have penetrated more than 500 feet into the horizon, and none have located the bottom of it, which is thought to be quite thick in most areas of the state.

The Oklahoma City field has also been the final thrust in throwing open the gates to Western Oklahoma. Formations are known to dip to the west in the state, and the producing horizons of eastern Oklahoma lay quite deep in the central part of the west half of the state. However, operators are going to test these formations now that they feel confident they can be reached. Sinclair Oil & Gas Company's Howell 1, in Harper County, rank wildcat of Western Oklahoma, is drilling below 6000 feet with the Wilcox sand expected soon. It will go to 7000 feet or deeper if necessary.

All of this deeper drilling calls for heavier equipment than has been previously used in Oklahoma. At present the Oklahoma City field is more or less of an experimental ground of deep hole practice for Oklahoma operators. When they have familiarized themselves with the many different conditions they must meet in reaching the depths of greater size there will be an increase in the amount of deeper drilling. The very heaviest type of equipment is now being used at Oklahoma City and in Western Oklahoma wildcats, and this type of equipment will continue to be carried in.

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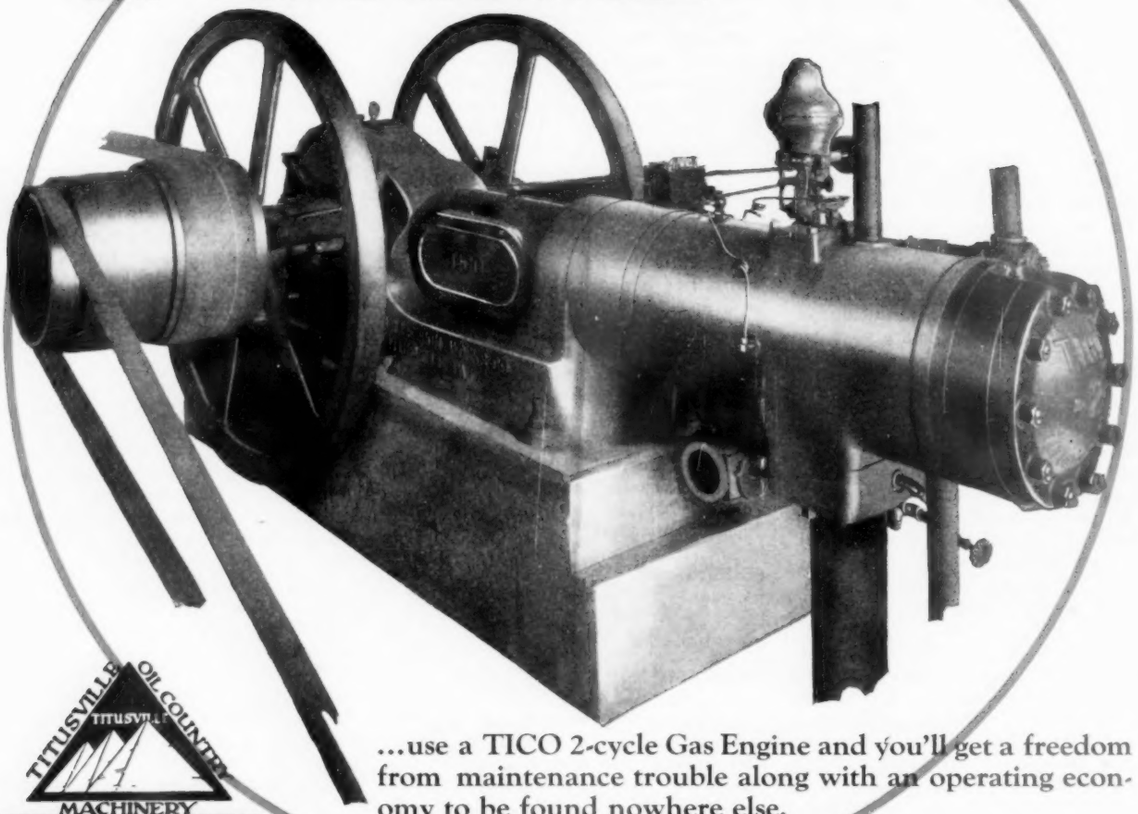

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Mid-Continent Association *Adopts* Unitization Plan

TULSA.—Members of the board of directors of the Mid-Continent Oil & Gas Association at their annual meeting in Tulsa, November 26, endorsed and adopted the principles and policies presented by the unitization committee, which outlined a code of practice to support and promote unitization and provided for the appointment of a standing unitization committee charged with the duty of securing the general adoption of the unitization movement.

The next step to be taken will be at the meeting next week of the American Petroleum Institute at Chicago, where it is hoped to get the endorsement of that body. Plans for presentation of the unit operation program to the A. P. I. are now practically complete. Following these steps it is hoped to be able to commence steps toward securing its general adoption.

The report adopted came from the land division of the unitization committee, consisting of six members. The committee offered its experience and made suggestions, following which its report was turned over to the legal committee and from the two the one presented was drawn up.

Propaganda Plan

It was suggested that an educational program be launched in behalf of the unification movement, since it is believed that most of the opposition is coming from sources not fully informed on the subject. A handbook on unitization for general circulation was considered advisable.

The definition of several phases was also made. "Unitize" and "Unitization" are defined as the process by which divided interest in an oil, and, or gas pool containing a number of tracts of land are converted into undivided interests in the entire area; where the owner of the oil or gas rights in an individual tract or tracts of land surrenders this exclusive ownership thereof in return for an assignment to him of an undivided interest in the oil and gas rights of the pool as a whole. "Co-operative agreement" signifies an arrangement falling short of complete unitization in that the interests remain in severalty and each owner may develop and operate his individual tract or lease but providing for a plan of co-operative development and operation designed to promote more orderly drilling and production that would otherwise occur.

Impediments to Progress

In addition to the varied terms and conditions of leases there have been other impediments to the progress of voluntary unitization. "Prominent among these," stated the report, "has been the attitude of lessors and of some operators with a lack of understanding of what unitization is and the benefits to be derived from it; also the time honored custom of the lease broker in selling acreage spreads. The broker, however, has discovered he can sell undivided interests in his block of acreage with as much ease as he formerly sold separate tracts or leases and that, in fact, he can complete the promotion more expeditiously under the new method than under the old system."

In regard to the lessor or royalty owners, from which source considerable opposition has been coming, due to infringment upon present methods that are more favorable to royalty owners than the new plan appears on the surface. The report says, "As to the lessor or royalty owner, it is believed that he will join the movement in time because unitization will broaden his chance of success by giving him an interest in the entire area, and a greater possible recovery."

Code of Practice to Support and Promote Unitization

It was pointed out that it is of vital importance to the unification movement that operating companies not purchase spreads of acreage about new drilling projects nor agree to make dry hole contributions unless the acreage is unitized or a co-operative plan of development and operation agreed to. This is the policy at the present time of a large number of companies in the Mid-Continent field, but the whole structure is weakened by some taking exceptions. For these reasons the unitization committee recommended that no exceptions be made to the following outlined rules of practice:

1. The oil pool rather than the individual tract or lease is the natural competitive unit in the oil producing business and all future development should be on this basis.

2. The buying of divided tracts or spreads of acreage as a means of promoting of financing new development projects is inconsistent with and in opposition to unit development.

3. Agreements to contribute dry hole money to procure tests of new prospective areas constitute an antiquated and deleterious practice unless confined to cases where a co-operative agreement has been made to insure orderly development and production when oil is found. The only permissible exception to this rule is in the case where all the conditions are known and only small wells or pools can be expected to result from the drilling. Small wells are defined as those not capable of producing more than 100 barrels per well per day.

4. The same economic considerations which prohibit the purchase of spreads of acreage and the contribution of dry hole money require also that no new drilling project should be undertaken in checkerboard areas until every effort has been made to unitize or to effect a co-operative agreement, even though there is no occasion or request for purchase of spreads or contributions of dry hole money.

5. Complete frankness, mutual confidence and trust are essential to success in the unitization movement. It is therefore recommended that the policy be adopted of revealing to each prospective member of a unitized pool the geological information in possession of each participant therein, including the results of core drilling.

6. The practice of "top-leasing" is regarded as unethical in the oil producing business. Negotiations by strangers to the title to procure leases to take effect in the future are in derogation of the rights of lessees under valid existing leases in that they force drilling and interfere with efforts to unitize or form co-operative agreements.

7. In order to promote the success of unitization movement by allaying suspicion or refuting rumors as to alleged infractions of the policy against purchase of spreads and contributions of dry hole money, it is suggested that each operator make it an invariable rule to file with a central agency complete reports of exceptions made to Rules 2 and 3, together with the reasons therefor, and showing the approval thereof by a chief executive of the company; and that such reports be kept on file and open to inspection by all bona fide operators.

The practice of also filing with said agency copies of completed unitization contracts and co-operative agreements for distribution would aid in the educational phase of the movement.

The logical agency for this purpose in the Mid-Continent field is the Mid-Continent Oil & Gas Association and its various divisional offices.

Elect Officers

W. N. Davis, Phillips Petroleum Company, Bartlesville, Oklahoma, was re-elected president of the general Mid-Continent Oil & Gas Association. W. C. Franklin, Tidal Oil Company, Tulsa, was made vice-president of the Oklahoma-Kansas Division. J. D. Collett, of O'Keefe and Collett, Fort Worth, Texas, made vice-president of the Texas division, and Ray McGrew, Shreveport, Louisiana, vice-president of the Louisiana-Arkansas division. Harry Smith was re-elected general secretary and treasurer.

PENNTEX

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Markets--Production--Crude Prices

H. J. STRUTH, *Staff Economist, Houston, Texas*

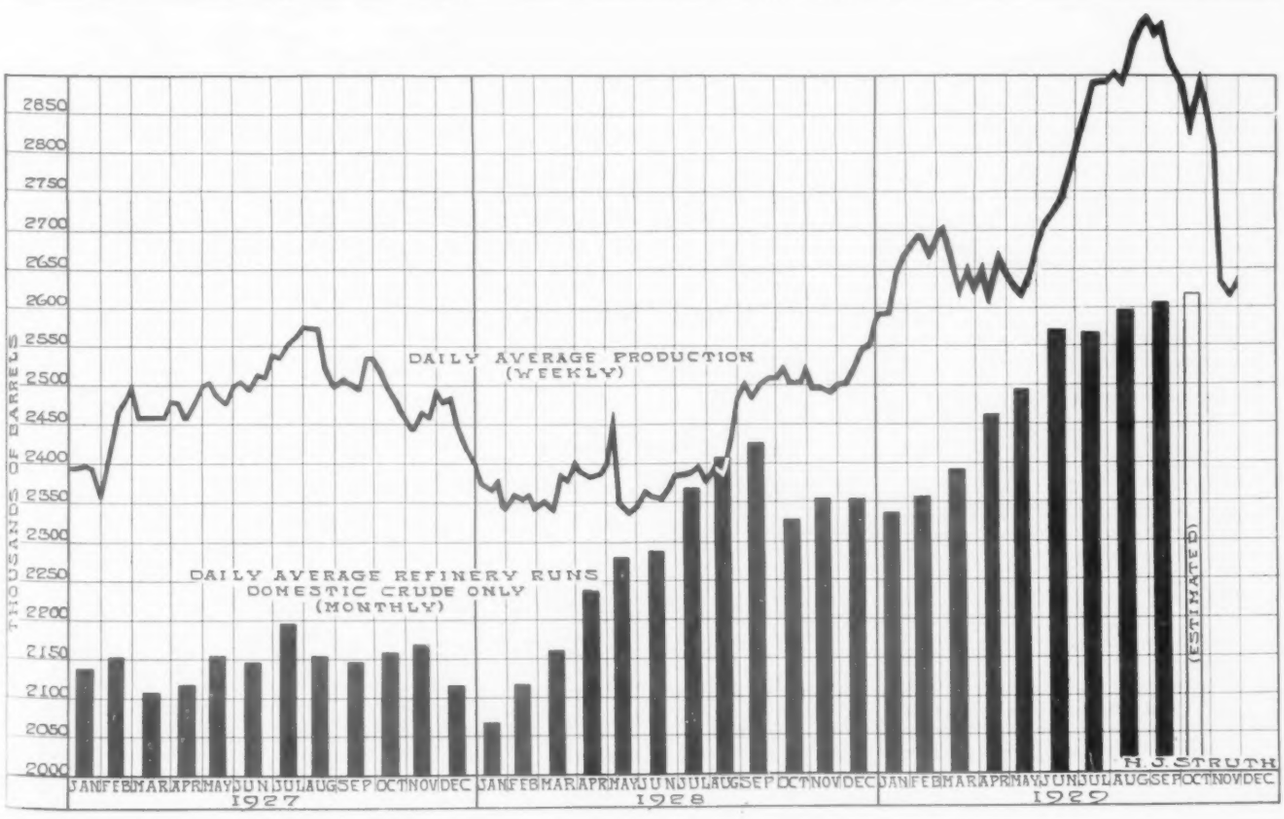
California Gain Reverses Production Trend

A GAIN of 25,000 barrels in daily average production of California resulted in production taking an upward trend last week, when the national daily average rose 13,250 barrels to a total of 2,633,250 barrels. This is not considered alarming at this time, since the gain in California was due to the completion of several large wells, the production of which is expected to be shut in shortly. Nevertheless, the difficulty experienced by the proration officers at Santa Fe Springs and Long Beach proves how easily conditions could revert to the former unstable situation and play havoc with the industry's market structure. As a matter of fact, a check-up of potentials in the various flush areas reveals that daily average production of crude could easily be increased to 3,255,000 barrels, if curtailment was entirely abandoned. This emphasizes the need for continued proration throughout next year; in fact, the immediate future of the industry depends upon the extension of existing curtailment agreements through that period.

Oklahoma oil operators are already taking steps toward outlining a conservation program for January and February, 1930. The special conservation committee of the Mid-Continent Oil & Gas Association has been asked to reconvene and draft a report showing the conditions as they will be at the first of the year. These figures are to include the estimated demand from the state and the potential production at that time. From these figures the amount of proration necessary in the various flush fields will be available and a conservation program will be drafted from the knowledge gained after a state-wide meeting of operators, where the report will be discussed. A state-wide meeting is to be held in Tulsa, December 10, and application for the program should be before the State Corporation Commission before the end of the year, when the present curtailment program expires.

There seems to be no doubt but that operators will ask for an extension of the present program, if not for a more

DOMESTIC PRODUCTION AND REFINERY RUNS



strenuous one. Success of the curtailment program in the state has been a very gratifying development to all oil operators, and all are backing the movement.

It is estimated that Oklahoma crude production might reach 900,000 barrels daily by the first of February if the output is not prorated. With a demand of approximately 650,000 barrels, such a surplus would surely result in a price reduction. Operators hope to avoid such a cut and have every indication of being successful if the proration program is continued.

HOW LAST WEEK'S DAILY AVERAGE PRODUCTION COMPARES WITH AVERAGE OF 1928

	Daily Av'ge Year 1928 (Bureau of Mines Data)	Daily Av'ge November 23, 1929 (A. P. I. Wkly Prod. Rept.)	Excess
Oklahoma-Kansas	786,585	753,700	**32,885**
Texas-Louisiana-Arkansas	849,205	970,050	120,845
California	633,831	699,500	65,669
Balance of United States	190,391	210,000	19,609
Total United States	2,460,012	2,633,250	173,238
Mexico-Central and South America	561,339	609,249*	47,910
Grand Total	3,021,351	3,242,499	221,148

*As of March 30, 1929—latest date available.
Bold face figures denote deficit.

Production Changes

Decreases in production last week aggregated 13,450 barrels, while increases totaled 26,700, of which California contributed 25,000 barrels. It is therefore apparent that had it not been for the advent of a considerable quantity of new production in California, total output last week would have shown an additional decline of at least 12,000 barrels. Advices from California, however, indicate that every effort will be made to bring production down to the allowable figure for the chief producing areas. Under the circumstances, it is logical to expect a further immediate decline in California's output. This leads to the conclusion that California's excess will have been entirely eliminated before the end of this year. With last week's gain, the excess of that state is now only 65,669 barrels. Oklahoma and Kansas continue to show a deficit compared with last year's daily average, while Texas, Louisiana and Arkansas are still charged with an excess of 120,845 barrels.

It is particularly encouraging to note that production in Texas continues to show declines, thus slowly reducing the excess of the state. Undoubtedly, extended proration in Texas next year, coupled with the prospect of a natural decline in Winkler County, will effect more pronounced reductions in the state's output, possibly culminating in a more balanced situation there. Last week, production in Texas, outside of the Gulf Coast area, showed another decline amounting to 5000 barrels, while the Gulf Coast area was credited with a decline of 3500 barrels.

Following are the outstanding changes reported in production last week by the American Petroleum Institute:

		Barrels
Gray County	Increase	3,200
Pecos County	Decrease	2,600
Winkler County	Decrease	1,400
Refugio County	Increase	2,000
Barbers Hill	Decrease	1,650
Spindle Top	Decrease	1,750
Seminole	Decrease	1,050
Little River	Decrease	3,100
Earlsboro	Decrease	2,550
St. Louis	Increase	2,450
Mission	Decrease	1,100
Oklahoma City	Increase	6,450
Sasakwa	Decrease	3,100
Santa Fe Springs	Increase	10,000
Long Beach	Decrease	4,000
Ventura	Increase	5,000
Seal Beach	Increase	7,000
Elwood	Increase	7,000

California

The crude market in California is still feeling the effects of many months of overproduction, although the outlook over a long period is decidedly better than it has been for more than a year. The decreased consumption during the winter months has met the curtailment squarely, the result being a less impressive showing than otherwise should be expected. The supply and demand are at least being brought closely together, however, and any increased demands on both crude and refined products will certainly be reflected in a generally improved tone. Close adherence to the present curtailment program, plus further reductions in fields which have not yet met their quotas will further improve the crude market, not only in California but elsewhere.

Total stocks of crude and all products in California are extremely high, and only the reduction of this surplus will bring about the healthier condition which prevailed during earlier years. The cost of carrying crude on the surface over a long period has seldom proven a profitable venture. By cutting heavily into storage during 1930, the industry could place itself on a steady plane in a comparatively short time.

Both Santa Fe Springs and Long Beach are being held near their allowable totals, but the latter area is having some trouble in chopping off the last few thousand barrels. Only close cooperation will bring about the desired results. New oil at Santa Fe Springs is causing the umpire trouble, but all excesses will be taken out of the next period's allowable figure under normal circumstances. Both fields are actually running about 10,000 barrels over their quotas—160,000 barrels and 110,000 barrels.

The California gasoline market is showing a little improvement, with tank car shipments destined for out-of-state points and cargoes for the Atlantic seaboard commanding slightly higher prices. This commodity was moving at as little as six cents two weeks ago, but a few

FIELD STATISTICS OF IMPORTANT DISTRICTS

Pool—	Oil Wells Completed	Total Initial Production	Initial Per Well	Number Producing Wells	Daily Production Barrels	Daily Prod. Per Well	Rigs Up	Wells Drilling
WEST TEXAS:								
Hendrick	618	3,116,255	5,050	570	106,280	186[2]	1	2
Church & Fields	203	208,420	1,030	198	19,720	100	2	7
Gulf-McElroy	81	61,315	757	80	14,725	184		2
Yates	353	2,408,365	6,822	349	135,840	389[2]	5	8
TEXAS PANHANDLE:								
Gray County	515	360,255	699	490	64,310	131[2]	9	62
OKLAHOMA:								
Oklahoma City[3]	19	120,533	6,344	26	80,634	3,101	9	159
East Earlsboro	50	89,918	1,798	50	26,977	539	4	80
CALIFORNIA:								
Santa Fe Springs [1]	421	1,360,950	3,233	205	144,000	702	22	200

[1]Includes deep zone production only. For field total add 100 wells and 13,500 bbls.
[2]Production partially pinched.
[3]Oklahoma City has 36 oil producers, only 19 of which have been officially completed. Production is prorated 40 per cent, with other wells taking proration shut down.
East Earlsboro production prorated 40 per cent.

CRUDE RUNS TO STILLS, GASOLINE AND GAS AND FUEL OIL STOCKS, WEEK ENDING NOVEMBER 16, 1929

(Figures in barrels of 42 gallons)

District—	Potential Daily Capacity	Potential Capacity Reporting Total	Potential Capacity Reporting Per Cent	Crude Runs to Stills Total	Crude Runs to Stills Daily Average	Crude Runs to Stills Per cent Operated	Gasoline Stocks	Gas and Fuel Oil Stocks
East Coast	605,700	605,700	100.0	3,530,100	504,300	83.3	4,627,000	8,740,000
Appalachian	128,100	115,300	90.0	558,400	79,800	69.2	839,000	768,000
Indiana, Illinois, Kentucky	360,000	353,500	98.1	2,165,200	309,300	87.5	4,512,000	3,760,000
Oklahoma, Kansas, Missouri	462,200	404,200	87.5	2,101,400	303,200	74.3	2,464,000	3,939,000
Texas	775,800	697,500	89.9	3,991,500	570,200	81.8	5,382,000	14,262,000
Louisiana-Arkansas	300,600	286,000	95.1	1,258,100	179,700	62.8	1,692,000	5,100,000
Rocky Mountain	148,900	138,300	92.9	410,800	58,700	42.4	1,737,000	1,007,000
California	897,400	891,100	99.3	4,575,700	653,700	73.4	14,045,000	109,520,000
Total Week November 16	3,678,700	3,491,600	94.9	18,591,200	2,655,900	76.1	35,298,000	147,096,000
Total Week November 9	3,678,700	3,482,700	94.7	18,466,600	2,638,100	75.7	*33,632,000	147,813,000
The Texas and Louisiana Gulf Coastal figures shown below are included in the totals of their respective districts.								
Texas Gulf Coast	526,500	526,500	100.0	3,143,900	449,100	85.3	4,546,000	10,954,000
Louisiana Gulf Coast	177,500	177,500	100.0	956,200	136,600	77.0	1,464,000	4,328,000

*Revised because of 398,000 barrel correction in Rocky Mountain district.

more inquiries are being received, especially for future deliveries. Gasoline stocks are still heavy in California. There has been no change in service station prices, with this branch of marketing getting fairly well in hand. A serious price war was threatened before a concerted effort was made to reduce production in the critical fields of the state. Cheap crude probably would have been reflected in lower gasoline prices, had overproduction continued during the remainder of 1929.

California fuel oil is slow to show improvement, stocks having increased so rapidly during the past year that the surplus is causing some trouble. Tank car shipments have been moving at 40 cents, and even less in a few instances, but the major companies are asking around 60 cents. One major company is sticking strictly to its posted price of 85 cents. Some of the smaller refineries are anxious to clean up their stocks, due to lack of storage and have been partially responsible for the lower prices. Bids for delivery on contracts over a long period are being submitted at from 58 cents to 85 cents.

Some refinable California crude may be purchased at the posted price, while a few producers are asking a small premium. A large block of semi-distressed crude was offered 10 days ago at the posted price, but principal purchasing companies shied away from the offer for a time. The crude supply is fairly well in hand, but overproduction has created a genuine surplus.

Slight reduction in crude prices is to take place about December 1 on high gravity deep oil production in the Howard-Glasscock County field, West Texas district. The operators have agreed to having the buyers shave the prices from six to 10 cents per barrel in order to restore the popularity of the crude.

Production declines in the Texas Panhandle district in recent months have been accompanied by a noticeable shrinkage in the crude demand of purchasers, and a number of small companies and operators are having difficulty in marketing their current production in Gray County and on the Carson-Hutchinson County line. The recent cold wave has slowed down oil movement through pipe lines even though most of them are equipped with heaters. Offers of Gray County crude testing above 40 gravity are being made in tank car lots at 10 cents per barrel under posted quotations of major companies.

Bell Oil & Gas Company, which recently announced that a 3000-barrel refinery would be built near Pampa, is reported to have recently made contracts under posted prices to remain in effect until its plant is ready to operate next spring.

Efforts to apply a proration plan in the Darst field, Luling district, on a similar basis that has proven successful in West Texas flush oil areas, is becoming more difficult as drilling activity expands. The Darst field threatens to stage a drilling campaign of major proportions, and independents are seeking crude market outlets at a sacrifice in price through long time contracts rather than submit to production restrictions.

IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

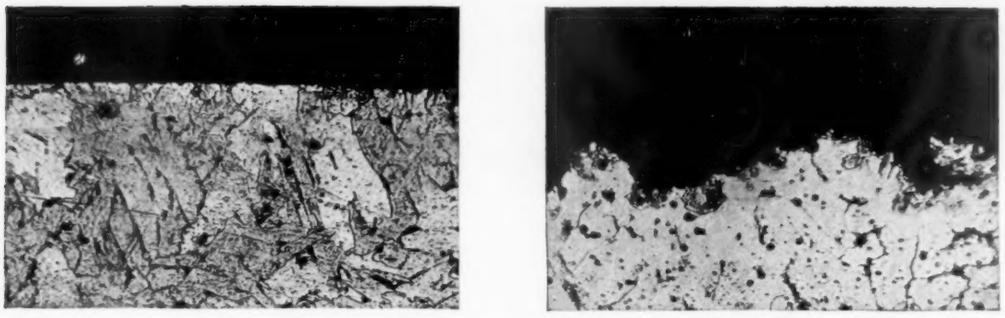
(Barrels of 42 gallons)

	Week Ended Nov. 16	Week Ended Nov. 9
AT ATLANTIC COAST PORTS—		
Baltimore	328,000	186,000
Boston	285,000	69,000
New York	895,000	619,000
Philadelphia	247,000	262,000
Others	146,000	211,000
Total	1,901,000	1,347,000
Daily Average	271,571	192,428
AT GULF COAST PORTS—		
Galveston District	.....	.....
New Orleans and Baton Rouge	64,000	38,000
Port Arthur and Sabine District	.....	.....
Tampa	40,000	35,000
Total	104,000	73,000
Daily Average	14,857	10,429
AT ALL UNITED STATES PORTS—		
Total	2,005,000	1,420,000
Daily Average	286,428	202,857
Daily Average Four Weeks Ended	284,179	293,750

CALIFORNIA OIL RECEIPTS AT ATLANTIC AND GULF COAST PORTS

(Barrels of 42 gallons)

	Week Ended Nov. 16	Week Ended Nov. 9
AT ATLANTIC COAST PORTS—		
Baltimore	172,000	225,000
Boston	.....	.....
New York	216,000	319,000
Philadelphia	138,000	108,000
Others	.....	60,000
Total	526,000	712,000
Daily Average	75,143	101,714
AT GULF COAST PORTS—		
Total	.....	.....
Daily Average	.....	.....
AT ATLANTIC AND GULF COAST PORTS—		
Total	526,000	712,000
Daily Average	75,143	101,714
Daily Average Four Weeks Ended	86,107	97,179
Distribution of Total California Oil Receipts is as follows:		
Gasoline	443,000	574,000
Gas Oil	.....	60,000
Fuel Oil	.....	78,000
Kerosene Distillate	83,000	.....
Total	526,000	712,000



The left-hand unretouched microphotograph shows a cross-section of the shell of new steel line pipe. The photograph at the right shows the destructive effect of corrosion on unprotected pipe after it has been in the ground. Photographs have been enlarged 250 times.

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United States Daily Average Production

Figures below are taken from the complete revised estimates of the AMERICAN PETROLEUM INSTITUTE except for the current week, which are advance estimates issued by the A. P. I. and are subject to revision:

1928	Oklahoma	Kansas	Texas (Outside Gulf Coast)	Gulf Coast	North Louisiana	Arkansas	Eastern States	Rocky Mountain	California	United States Daily Av.	United States Total
June	594,850	105,200	554,400	135,400	42,350	102,850	109,300	82,400	643,400	2,370,150	71,104,500
July	587,150	102,750	597,250	133,650	42,150	90,700	113,400	80,400	644,700	2,392,150	74,156,600
August	656,350	102,200	604,000	130,200	40,200	87,500	113,300	77,700	634,150	2,445,600	75,534,600
September	724,850	99,750	604,150	129,500	39,050	84,700	112,550	78,850	631,650	2,505,050	75,151,500
October	741,350	97,900	598,550	129,950	38,800	83,550	114,000	83,300	624,450	2,511,850	77,867,800
November	715,750	96,600	586,350	135,100	38,600	83,000	109,700	81,150	653,050	2,499,300	74,978,300
December	710,600	97,200	603,700	135,050	37,300	81,350	113,450	74,600	697,850	2,551,100	79,084,400
1929											
January	722,550	97,150	632,500	136,750	36,650	78,600	111,950	73,200	747,250	2,635,600	81,703,600
February	714,800	95,950	643,350	142,300	35,700	74,600	108,550	71,750	797,800	2,684,800	75,204,400
March	666,500	95,500	662,500	147,750	35,800	74,250	108,850	70,400	786,000	2,647,400	82,068,350
April	665,600	106,400	650,100	154,550	35,550	72,900	110,850	69,400	781,350	2,646,700	79,402,100
May	679,650	115,400	651,100	150,350	35,350	71,500	114,150	72,850	749,250	2,639,600	81,827,600
June	685,200	120,750	688,200	147,500	35,700	70,050	116,750	72,000	827,200	2,763,400	82,902,250
July	722,050	124,250	718,950	148,150	35,750	68,650	122,000	74,250	874,850	2,888,900	89,555,250
August	728,100	127,950	750,750	153,100	36,300	66,900	126,600	77,900	873,300	2,940,900	91,167,250
September	714,050	128,450	741,200	156,600	37,050	65,300	137,250	78,600	874,850	2,933,350	88,000,650
October	673,600	113,400	714,550	167,050	39,700	64,550	137,400	77,950	876,600	2,864,800	88,809,500
Nov. 2	661,450	110,450	706,050	169,100	36,200	64,650	138,000	75,850	851,500	2,813,250	19,692,750
Nov. 9	617,250	110,000	712,650	172,650	36,700	64,450	136,350	75,150	706,000	2,632,050	18,424,350
Nov. 16	645,950	109,650	703,000	175,150	36,550	63,250	135,100	76,850	674,500	2,620,000	18,340,000
Nov. 23	643,050	110,650	698,000	171,650	36,450	63,950	133,900	76,100	699,500	2,633,250	18,432,750
Increase	.....	1,000	.....	.....	.....	700	.....	.....	25,000	13,250	92,750
Decrease	2,900	.....	5,000	3,500	100	.....	1,200	750	.....	.....	.....

TEXAS
(Outside Gulf Coast)
PANHANDLE DISTRICT

	Nov. 23	Nov. 16
Carson County	9,600	10,000
Gray County	64,400	61,200
Hutchinson County	27,000	27,750
Wheeler County	700	600
Others	900	800
Total	102,600	100,350

NORTH TEXAS

Archer County	18,050	17,950
Burkburnett	9,300	9,150
Electra	11,400	11,250
Iowa Park-KMA	4,650	4,550
Montague and Cooke Counties	15,050	16,200
Wilbarger	29,950	30,600
Others	900	900
Total	89,300	90,600

WEST CENTRAL TEXAS

Brown County	10,600	10,900
Callahan County	3,400	3,400
Coleman County	7,000	8,000
Eastland-Desdemona	6,550	6,600
Jack County	3,700	3,650
Palo Pinto County	550	500
Shackelford County	9,500	9,650
Stephens County	6,300	6,300
Throckmorton County	600	600
Young County	7,200	6,400
Others	1,450	1,500
Total	56,850	57,500

WEST TEXAS

Crane-Upton Counties	44,000	44,800
Crockett County	2,300	2,400
Howard County	40,000	40,900
Jones County	2,600	2,600
Mitchell-Scurry Cos.	2,500	2,600
Pecos County	141,000	143,600
Reagan County	17,000	17,150
Winkler County	105,000	106,400
Others	2,850	2,800
Total	357,250	363,250

EAST CENTRAL TEXAS

Boggy Creek	3,100	3,200
Corsicana-Powell	6,900	7,000
Currie	400	400
Mexia	5,000	5,100
Nigger Creek	350	300
Richland	300	300
Wortham	1,000	1,000
Van Zandt	300	300
Total	17,350	17,600

SOUTHWEST TEXAS

Dale	350	400
Laredo District	9,300	9,400
Luling	10,750	10,800
Lytton Springs	900	900
Somerset	1,700	1,700
Salt Flat	32,800	33,650
Refugio	16,200	14,200
Others	2,650	2,650
Total	74,650	73,700
T'l Tex. (Outside Gulf Coast)	698,000	703,000

TEXAS GULF COAST

Barbers Hill	20,700	22,350
Batson	1,300	1,300
Big Creek	4,800	5,300
Blue Ridge	2,400	2,400
Boling	1,300	1,300
Damon Mound	500	500
Goose Creek	5,400	5,650
Hull	10,250	10,400
Humble	18,200	18,200
Orange County	3,250	2,300
Pierce Junction	11,500	11,900
Raccoon Bend	9,000	8,750
Saratoga	900	900
Sour Lake	2,550	2,500
South Liberty	5,700	5,600
Spindle Top	20,600	22,350
Sugar Land	13,600	12,650
West Columbia	6,000	6,200
Washington County	1,600	1,500
Fannett	1,900	2,800
Others	6,900	5,350
Total	148,350	150,200
Texas Total	846,350	853,200

OKLAHOMA

Asher	4,350	4,600
Carr City	10,100	10,400
Logan County	16,650	15,850
Braman	3,700	3,700
Blackwell	3,750	3,750
Hubbard	1,700	1,700
Thomas	600	750
Tonkawa	8,800	9,050
Garber	4,900	4,800
Burbank	17,650	17,700
Osage (outside Burbank)	26,750	26,550
Cushing	15,700	15,000
Yale Jennings	7,300	6,450
Davenport	1,300	1,300
Bristow Slick	18,700	19,000
North Okmulgee	11,250	11,300
Lyons Deaner	7,000	7,000
Cromwell	7,600	7,600
Papoose	3,200	3,200
Wewoka	4,350	4,350
Seminole	25,350	26,400
East Seminole	4,500	4,250
Bowlegs	25,550	26,000
Searight	9,450	10,250
Little River	67,600	70,700
Earlsboro	61,450	64,000
Duncan District	8,500	8,400
Graham	3,900	3,900
Fox	1,300	1,300
Healdton	12,650	12,650
Hewitt	7,850	7,800
Scholem Alechem	13,750	13,750
Pearson	850	950
St. Louis	51,850	49,400
Allen	20,600	20,300
Maud	9,000	9,800
Mission	15,800	16,900
Oklahoma City	64,200	57,750
Sasakwa	8,700	11,800
Others	55,850	55,600
Total	643,050	645,950

CALIFORNIA

Santa Fe Springs	160,000	150,000
Long Beach	108,000	112,000
Huntington Beach	42,000	42,000
Dominquez	8,500	.....
Inglewood	23,000	23,000
Midway-Sunset	72,500	72,500
Ventura Avenue	55,000	56,000
Seal Beach	29,000	22,000
Elwood-Goleta	35,000	28,000
Kettleman Hills	10,000	10,000
Others	156,500	156,500
Total	699,500	674,500

KANSAS

Greenwood County	21,450	20,750
Florence-Covert	1,050	950
Peabody-Ebling	3,150	3,100
Eldorado-Towanda	12,900	13,100
Augusta-Fox Bush	3,000	2,950
Rainbow Bend	1,150	1,100
Russell	3,200	3,000
Churchill	5,300	5,200
Oxford	3,450	3,700
Sedgewick	22,900	22,300
Others	33,000	33,500
Total	110,650	109,650

NORTH LOUISIANA

	Nov. 23	Nov. 16
Homer	3,700	3,700
Haynesville	4,850	4,900
Caddo Light	10,800	10,750
Caddo Heavy	2,900	3,100
DeSoto-Red River	2,900	2,800
Elm Grove	500	500
Bellevue	650	650
Cotton Valley	2,500	2,500
Urania	5,550	5,550
Pleasant Hill	1,400	1,300
Others	700	800
Totals North Louisiana	36,450	36,550

LOUISIANA GULF COAST

Bayou Boullion	100	100
East Hackberry	1,950	2,050
Hackberry	2,700	2,800
Edgerly	600	600
Evangeline	1,500	1,550
Lockport	3,700	3,800
Sorrento	.....	50
Sulphur Dome	6,100	6,400
Vinton	4,400	4,100
Others	2,250	3,500
Total Louisiana Gulf Coast	23,300	24,950
Louisiana Total	59,750	61,500

ARKANSAS

El Dorado	4,300	3,500
Champagnolle	5,500	5,300
Smackover Light	5,800	5,800
Smackover Heavy	45,100	45,350
Stephens	1,000	1,000
Nevada	1,050	1,050
Lisbon	1,100	1,150
Others	100	100
Total	63,950	63,250

MOUNTAIN STATES
WYOMING

Salt Creek	30,700	31,250
Grass Creek	2,000	2,250
Elk Basin	700	600
Big Muddy	2,100	2,200
Lost Soldier	3,050	3,100
Rock River	2,250	2,300
Lance Creek	150	150
Oregon Basin	4,350	4,800
La Barge	2,500	2,250
Others	4,500	3,950
Total	52,300	52,850

MONTANA

Cat Creek	1,250	1,250
Sunburst	6,800	6,900
Pondera	2,400	2,400
Others	50	50
Total	10,500	10,600

COLORADO

Moffats (Craig)	1,050	1,200
Fort Collins	1,800	1,850
Florence	600	700
Others	1,650	1,700
Total	5,100	5,450

NEW MEXICO

Table Mesa	100	100
Artesia	850	850
Hogback	550	500
Rattlesnake	1,650	1,650
Lea and Eddy Cos.	4,450	4,450
Others	400	400
Totals	8,000	7,950
Total Mountain States	76,100	76,850

EASTERN STATES

(Including Ill., Ind., Ohio, W. Va., Pa., Ky., N. Y. and Mich)	133,900	135,100

PRODUCTION SUMMARY

East of Rockies	1,857,650	1,868,650
Total U. S.	2,633,250	2,620,000

CRUDE OIL PRICE QUOTATIONS

(Revised to November 26, 1929)

EASTERN STATES

(Effective November 12, 1929)

Penna Grade Oil in New York Transit Lines (New York)	$3.05
Bradford District Oil in National Transit Lines (Pennsylvania)	3.05
Penn Grade Oil in National Transit Lines (Pennsylvania)	3.05
Penn Crude Oil in Southwest Pennsylvania Lines (West Virginia)	3.00
Penn Grade Oil in Eureka Pipe Line Lines (Pennsylvania)	2.90
Penna Grade Oil in Buckeye Pipe Line Lines (Ohio)	2.65
Cabell Grade Oil in Eureka Pipe Line Lines (West Virginia)	1.75
Corning 35-cent Grade Oil in Buckeye Pipe Line Co.'s lines	1.80
Corning 25-cent Grade Oil in Buckeye Pipe Line Co.'s lines	1.90
Somerset Oil in Cumberland Pipe Line lines (Kentucky)	1.55
Ragland Grade Oil in Cumberland Pipe Line lines (Kentucky) (Effective Jan. 29, 1929)	60
Keister (Pennsylvania)	1.20

CENTRAL STATES

(Effective May 21, 1929)

Posted by Ohio Oil Co.

Illinois	1.75
Indiana	1.57
Lima	1.80
Plymouth	1.28
Princeton	1.75
Waterloo	1.35
Wooster	1.90

WESTERN KENTUCKY

All grades	1.68

MID-CONTINENT

(Effective May 21, 1929)

Magnolia Petroleum Company

Under 26	.70
26 to 26.9 gravity	.75
27 to 27.9 gravity	.85
28 to 28.9 gravity	.90
29 to 29.9 gravity	.95
30 to 30.9 gravity	1.05
31 to 31.9 gravity	1.15
32 to 32.9 gravity	1.25

From 33 to 44 gravity and above, Magnolia Petroleum Company prices are the same as those of Carter Oil Company.

MID-CONTINENT

(Effective May 20, 1929)

Carter Oil Company, Gulf Pipe Line Company, Sinclair Pipe Line Company, Prairie Oil and Gas Company and The Texas Company

25 to 25.9 gravity	.90
26 to 26.9 gravity	.95
27 to 27.9 gravity	1.00
28 to 28.9 gravity	1.05
29 to 29.9 gravity	1.10
30 to 30.9 gravity	1.15
31 to 31.9 gravity	1.20
32 to 32.9 gravity	1.25
33 to 33.9 gravity	1.30
34 to 34.9 gravity	1.35
35 to 35.9 gravity	1.40
36 to 36.9 gravity	1.45
37 to 37.9 gravity	1.50
38 to 38.9 gravity	1.55
39 to 39.9 gravity	1.60
40 to 40.9 gravity	1.65
41 to 41.9 gravity	1.70
42 to 42.9 gravity	1.75
43 to 43.9 gravity	1.80
44 and above	1.85

PANHANDLE

(Effective May 20, 1929)

GRAY COUNTY

(Humble Oil & Refining Company, Magnolia Petroleum Company, Gulf Pipe Line Company

Below 29 gravity	.90
29 to 29.9 gravity	.95
30 to 30.9 gravity	1.00
31 to 31.9 gravity	1.05
32 to 32.9 gravity	1.10
33 to 33.9 gravity	1.15
34 to 34.9 gravity	1.20
35 to 35.9 gravity	1.25
36 to 36.9 gravity	1.30
37 to 37.9 gravity	1.35
38 to 38.9 gravity	1.40
39 to 39.9 gravity	1.45
40 to 40.9 gravity	1.50
41 to 41.9 gravity	1.55
42 to 42.9 gravity	1.60
43 to 43.9 gravity	1.65
44 and above	1.70

WHEELER COUNTY

(Humble Oil and Refining Company and Magnolia Petroleum Company)

Below 30 gravity	.90
30 to 30.9 gravity	.95
31 to 31.9 gravity	1.00
32 to 32.9 gravity	1.05
33 to 33.9 gravity	1.10
34 to 34.9 gravity	1.15
35 to 35.9 gravity	1.20
36 to 36.9 gravity	1.25
37 to 37.9 gravity	1.30
38 to 38.9 gravity	1.35
39 to 39.9 gravity	1.40
40 to 40.9 gravity	1.45
41 to 41.9 gravity	1.50
42 to 42.9 gravity	1.55
43 to 43.9 gravity	1.60
44 and above	1.65

CARSON-HUTCHINSON COUNTIES

(Humble Oil and Refining Company, Magnolia Petroleum Company and Gulf Pipe Line Company)

Below 32 gravity	.90
32 to 32.9 gravity	.95
33 to 33.9 gravity	1.00
34 to 34.9 gravity	1.05
35 to 35.9 gravity	1.10
36 to 36.9 gravity	1.15
37 to 37.9 gravity	1.20
38 to 38.9 gravity	1.25
39 to 39.9 gravity	1.30
40 to 40.9 gravity	1.35
41 to 41.9 gravity	1.40
42 to 42.9 gravity	1.45
43 to 43.9 gravity	1.50
44 and above	1.55

SOMERSET

Grayburg

Below 33 gravity	1.05
33 to 33.9 gravity	1.07
34 to 34.9 gravity	1.09
35 to 35.9 gravity	1.11
36 to 36.9 gravity	1.13
37 to 37.9 gravity	1.15
38 and above	1.17

CALIFORNIA CRUDE OIL PRICES AT THE WELL

(EFFECTIVE NOVEMBER 8, 1929)

Following are the current prices offered by Standard Oil Company for crude oil at the well: (Price per barrel of 42 gallons in fields indicated)

Gravity	Ventura*	Signal Hill	Alamitos Heights-Seal Beach	Huntington Beach	Inglewood	Olinda-Brea Canon	Athens-Rosecrans Dominguez	Elwood† Terrace	Torrance	Richfield	Whittier La Habra	Montebello	Coyote Hills	Santa Fe Springs	Newhall McKittrick Kern River	Midway-Sunset Elks Hills	Buena Vista Hills	Lost Hills	Coalinga	Wheeler Ridge
14-14.9	$ .85	$ .70	$ .70	$ .70	$ .70	$ .70	$ ..	$ ..	$ .70	$ .70	$ .70	$ .70	$ .70	..	$ .50	$ .50	$ .50	$ .50	$ .50	$ .50
15-15.9	.85	.70	.70	.70	.70	.70	..	..	.70	.70	.70	.70	.70	..	.50	.50	.50	.50	.50	.50
16-16.9	.85	.70	.70	.70	.70	.70	..	..	.70	.70	.70	.70	.70	..	.50	.50	.50	.50	.50	.50
17-17.9	.85	.70	.70	.70	.70	.70	..	..	.70	.70	.70	.70	.70	..	.50	.50	.50	.50	.50	.50
18-18.9	.85	.75	.75	.75	.75	.75	..	..	.75	.75	.75	.70	.75	..	.50	.56	.56	.56	.56	.56
19-19.9	.85	.80	.80	.80	.80	.80	..	..	.80	.80	.80	.75	.80	..	.50	.62	.62	.62	.62	.62
20-20.9	.85	.85	.85	.85	.85	.85	..	..	.85	.85	.84	.80	.84	..	..	.68	.68	.68	.68	.68
21-21.9	.86	.89	.89	.89	.89	.89	..	..	.89	.89	.88	.85	.88	.89	..	.74	.74	.74	.74	.74
22-22.9	.87	.93	.93	.93	.93	.93	..	..	.93	.93	.91	.90	.91	.92	..	.80	.80	.80	.80	.80
23-23.9	.90	.97	.97	.97	.97	.97	..	..	.97	.97	..	.95	.94	.95	..	.85	.85	.85	.85	.85
24-24.9	.94	1.01	1.01	1.01	1.01	1.01	1.01	..	1.01	1.01	..	.98	.97	.98	..	.90	.90	.90	.88	.88
25-25.9	.98	1.05	1.05	1.05	1.05	1.05	1.05	..	1.05	1.05	..	1.01	1.00	1.01	..	.95	.95	.95	.91	.91
26-26.9	1.02	1.09	1.09	1.09	1.09	1.09	1.09	..	1.09	1.09	..	1.04	1.04	1.04	..	1.00	1.00	1.00	.94	.94
27-27.9	1.06	1.13	1.13	1.13	1.13	1.13	1.13	..	1.13	1.13	..	1.07	1.08	1.07	..	1.05	1.05	1.05	.98	.97
28-28.9	1.10	1.17	1.17	1.17	1.17	1.17	1.17	..	1.17	1.17	..	1.10	1.12	1.10	..	1.10	1.10	1.10	1.02	..
29-29.9	1.14	1.21	1.21	1.21	..	1.21	1.21	..	..	1.21	..	1.13	1.16	1.15	..	1.16	1.16	1.16	1.06	..
30-30.9	1.18	1.25	1.25	1.25	..	1.25	1.25	..	..	1.25	..	1.16	1.20	1.20	..	1.22	1.22	1.22	1.10	..
31-31.9	1.23	1.30	1.30	1.30	..	..	1.30	..	..	..	..	..	..	1.25	..	1.28	1.28	1.28	1.14	..
32-32.9	1.28	1.35	1.35	1.35	..	..	1.35	..	..	..	..	..	..	1.30	..	1.34	1.34	1.34	1.18	..
33-33.9	..	..	..	..	..	..	1.41	..	..	..	..	..	..	1.35	..	1.40	1.40	1.40	1.22	..
34-34.9	..	..	..	..	..	..	1.47	1.16	..	..	..	..	..	1.40	..	..	..	1.46	1.26	..
35-35.9	..	..	..	..	..	..	1.53	1.22	..	..	..	..	..	1.45	..	..	..	..	1.30	..
36-36.9	..	..	..	..	..	..	1.59	1.28	..	..	..	..	..	1.50	..	..	..	..	..	..
37-37.9	..	..	..	..	..	..	1.65	1.34	..	..	..	..	..	1.55	..	..	..	..	..	..
38-38.9	..	..	..	..	..	..	1.71	1.40	..	..	..	..	..	1.60	..	..	..	..	..	..
39-39.9	..	..	..	..	..	..	1.77	1.46	..	..	..	..	..	1.65	..	..	..	..	..	..
40-40.9	..	..	..	..	..	..	1.83	1.52	..	..	..	..	..	..	..	..	..	..	..	..
41-41.9	..	..	..	..	..	..	1.89	1.58	..	..	..	..	..	..	..	..	..	..	..	..
42-42.9	..	..	..	..	..	..	1.95	1.64	..	..	..	..	..	..	..	..	..	..	..	..

KETTLEMAN HILLS—55 degrees Gravity and above $1.65 per barrel. *Union Oil Company. †Changed March 18, 1929.

(See Page 60)

NATIONAL ADVERTISING

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CRUDE OIL PRICE QUOTATIONS (*Continued from Page 58*)

WEST TEXAS
(Humble, Gulf, Magnolia, The Marland Company and Southern Crude Oil Purchasing Company)*

Crane-Upton, Crockett, Howard, Pecos and Winkler Counties and Lea County, N. Mex.

Below 25 gravity	.70
25 to 25.9 gravity	.74
26 to 26.9 gravity	.78
27 to 27.9 gravity	.82
28 to 28.9 gravity	.86
29 to 29.9 gravity	.90
30 to 30.9 gravity	.94
31 to 31.9 gravity	.98
32 to 32.9 gravity	1.02
33 to 33.9 gravity	1.06
34 to 34.9 gravity	1.10
35 to 35.9 gravity	1.14
36 and above	1.18

*Gulf does not post in Winkler County; Magnolia posts in Crane, Upton and Winkler Counties. Southern Crude Oil Purchasing Company posts only in Crane, Upton and Winkler Counties.

MARKHAM
The Texas Company
(Effective May 20, 1929)

All grades	$1.00

LULING

All grades	.90

NORTH AND CENTRAL TEXAS
(Effective May 21, 1929)

Ranger, North Texas, Mexia, Powell, Richland, Wortham, Currie, Moran, Nocona and Lytton Springs Crude
(Humble Oil and Refining Company)

Below 25	.85
25 to 25.9 gravity	.90
26 to 26.9 gravity	.95
27 to 27.9 gravity	1.00
28 to 28.9 gravity	1.05
29 to 29.9 gravity	1.10
30 to 30.9 gravity	1.15
31 to 31.9 gravity	1.20
32 to 32.9 gravity	1.25
33 to 33.9 gravity	1.30
34 to 34.9 gravity	1.35
35 to 35.9 gravity	1.40
36 to 36.9 gravity	1.45
37 to 37.9 gravity	1.50
38 to 38.9 gravity	1.55
39 to 39.9 gravity	1.60
40 to 40.9 gravity	1.65
41 to 41.9 gravity	1.70
42 to 42.9 gravity	1.75
43 to 43.9 gravity	1.80
44 and above	1.85

SOUTH TEXAS

Mirando	.90
Salt Flat	1.25

GULF COAST
(Effective May 21, 1929)

Grade "A" all companies	1.30
Gulf Coast Light Oil, below 25	1.15
25 to 25.9 gravity	1.18
26 to 26.9 gravity	1.21
27 to 27.9 gravity	1.24
28 to 28.9 gravity	1.27
29 to 29.9 gravity	1.30
30 to 30.9 gravity	1.33
31 to 31.9 gravity	1.36
32 to 32.9 gravity	1.39
33 to 33.9 gravity	1.42
34 to 34.9 gravity	1.45
35 to 35.9 gravity	1.48
36 to 36.9 gravity	1.51
37 to 37.9 gravity	1.54
38 to 38.9 gravity	1.57
39 to 39.9 gravity	1.60
40 and above	1.63

*Humble Oil & Refining Company's postings on Gulf Coast Light stop at 35 to 35.9. Its price on all crudes above 35 to $1.37 per barrel.

Magnolia Petroleum Company's postings stop at 31 to 31.9

CLASSIFICATIONS OF GULF COAST CRUDE

The Texas Company: GRADE A—Beaume gravity not over 26.0 degrees at 60 degrees Fahrenheit; sulphur not over 0.5 per cent; in distilling 500 cc. of the crude that part of the distillate cut between 65 per cent off and 85 per cent off shall have a pour test of zero or lower. GRADE B—All Gulf Coast heavy crudes which do not meet tests for Grade "A" or for Gulf Coast light.

Humble Oil & Refining Company: GRADE A—All crude conforming to the following tests: viscosity not less than 100 seconds Saybolt at 100 degrees Fahrenheit; sulphur not over .4 per cent; Beaume gravity not over 25 at 60 degrees Fahrenheit. Cold tests of distillates having a viscosity of 1000 seconds at 100 degrees Fahrenheit shall not be over 5 degrees Fahrenheit. GRADE B—Embraces all Coastal crude which does not meet the tests for "A" grade crude.

Gulf Pipe Line Company: GRADE A—Beaume gravity not over 24 at 60 degrees Fahrenheit; viscosity not less than 100 seconds universal Saybolt at 100 degrees Fahrenheit; and sulphur not over 0.4 per cent. The yield of 250 viscosity reduced distillate at 100 degrees Fahrenheit not less than 30 per cent, and this 30 per cent not heavier than 20 Beaume, and its pour test not above zero Fahrenheit. The reduced distillate to be secured by reducing the crude with fire and steam until the bottoms have a flash of not less than 540 degrees Fahrenheit, and not more than 560 degrees Fahrenheit open cup, and the entire distillate obtained in this way reduced to a distillate of 250 viscosity. The 10 per cent cut in the original distillate having an average viscosity of 500 seconds at 100 degrees Fahrenheit to have a pour test not higher than 5 degrees Fahrenheit. GRADE B—Embraces crude which does not meet test for "A" grade.

WYOMING-MONTANA
(Effective May 21, 1929)
Wyoming

Byron	1.33
Ferris	1.60
Elk Basin	1.65
Grass Creek	1.65
Rock Creek	1.40
Lost Soldier	1.05
Lance Creek	1.68
Mule Creek	1.20
Notches	.65
Big Muddy	1.43
Osage	1.65
Hamilton Dome	.85
Pilot Butte	1.75
Torchlight-Greybull	1.65
Lander	.80
Rex Lake	1.10
South Casper Creek-Poison Spider	1.00

Salt Creek
Midwest Refining Company

29 to 29.9 gravity	.90
30 to 30.9 gravity	.96
31 to 31.9 gravity	1.02
32 to 32.9 gravity	1.08
33 to 33.9 gravity	1.11
34 to 34.9 gravity	1.14
35 to 35.9 gravity	1.17
36 to 36.9 gravity	1.20
37 and above	1.23

MONTANA
(Effective May 24)

Sunburst	$1.75
Cat Creek	1.48
Lake Basin	2.20

NEW MEXICO

Artesia	1.08
Hogback	1.43

CANADA
(Effective May 21, 1929)

Oil Springs	2.27
Petrolia	2.20

LOUISIANA-ARKANSAS
(Effective May 22, 1929)

Homer, Haynesville, Caddo, El Dorado, De Soto and Crichton and Cotton Valley*
(Atlantic Oil Producing Company, Standard of Louisiana, Magnolia Petroleum Company and The Texas Company.)

27 to 27.9 gravity	$1.00
28 to 28.9 gravity	1.05
29 to 29.9 gravity	1.10
30 to 30.9 gravity	1.15
31 to 31.9 gravity	1.20
32 to 32.9 gravity	1.25
33 to 33.9 gravity	1.30
34 to 34.9 gravity	1.35
35 to 35.9 gravity	1.40
36 to 36.9 gravity	1.45
37 to 37.9 gravity	1.50
38 to 38.9 gravity	1.55
39 to 39.9 gravity	1.60
40 to 40.9 gravity	1.65
41 to 41.9 gravity	1.70
42 to 42.9 gravity	1.75
43 to 43.9 gravity	1.80
44 gravity and above	1.85

*Shreveport-Eldorado's postings stop at above 40 gravity.

The posting on Cotton Valley is same as Caddo. From 36 to 52 and above the regular gravity schedule is followed.

The Texas Company pays North Texas gravity scale in North Louisiana.

STEPHENS
(All Companies)

Below 28 gravity	.90
28 to 28.9 gravity	.94
29 to 29.9 gravity	.98
30 to 30.9 gravity	1.02
31 to 31.9 gravity	1.06
32 gravity and above	1.10

SMACKOVER
(All Companies)

Below 24 gravity	.85
24 and above	1.00
Bellevue	1.30
Jennings	1.15
Vinton	1.30
Edgerly	1.30
Starks Dome	1.30
Urania	1.00
Calion	.75

Kettleman Hills Projects Remove Apprehensions

Coalinga, California.—Petroleum Securities Company is not satisfied with showings found in Robinson 1, a deep test one and one-half miles south of the discovery well at Kettleman Hills, and has suspended operations at 8310 feet. Although the producing sand was expected considerably deeper than in the producers near the apex, complete failure to find an oil sand was disappointing.

Bolsa Chica Oil Corporation, drilling only one mile south of the North Dome axis, has stopped drilling in Ferguson 1 at 7415 feet and has dropped back to 6800 feet, preparatory to reaming to bottom. This well was regarded as better than an even bet for production above 7400 feet and failure to find more than a blue shale with gas showings near the bottom is viewed with suspicion. The last cores are believed to be much better than originally reported, however, and the well still has a good chance for production.

These two wells prove the structure to dip rather sharply and there is a possibility that the producing strip on the North Dome will be narrow.

Ohio Oil Company has reached a depth of 7400 feet in Smith 1, a test on the South Dome, but has found nothing better than a questionable gray sand below 7300 feet. Elimination of the South Dome will shorten the probable producing length of the field by fully one-third.

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PERSONAL MENTION-MEN YOU KNOW

Pete R. Smith, who has been the Arkansas division manager of the Pure Oil Company with headquarters at El Dorado, was recently transferred to Fort Worth to become assistant general manager of the producing department in Texas, Louisiana and Arkansas. Smith was formerly chief scout for the company in the above states with headquarters at Fort Worth. R. L. Grigsby has been transferred from Fort Worth to take charge of the Arkansas division.

A recent personal mention of A. Jacobson and Sidney Powers erroneously connected those gentlemen with the Independent Oil and Gas Company. They are with the Amerada Petroleum Corporation.

Jacques Vinmont has resigned as chairman of the board of the Pacific Western Oil Company.

complete rotary outfit, including a Regan crown block.

Incidentally he writes that he is receiving his *Oil Weekly* regularly and that he likes the book because it keeps him posted on what is going on in the good old U. S. A.

Edward T. Moore, president of the Simms Oil Company, who was recently elected president of the Texas division of the Mid-Continent Oil & Gas Association was honored by Dallas oil men with a luncheon here November 22. The Dallas wildcat committee sponsored the gathering, with R. A. Wilson presiding as toastmaster.

George B. McCamey, Fort Worth drilling contractor and operator, is confined to a hospital in Fort Worth suffering from a relapse after having the influenza. McCamey was a co-discoverer of the McCamey field, West Texas district.

George W. Lamont has been placed in charge of the recently opened office of Hanlon-Buchanan, Incorporated, at 410 Post-Dispatch Building, Houston.

E. H. Williams of the National Supply Company of Toledo has been appointed national chairman of the American Petroleum Institute's special committee on the standardization of cable tools. Mr. Williams succeeds Thomas Fleming, Jr., formerly of the Oil Well Supply Company, who resigned.

Arkansas Natural Gas Co. Fosters Safety Council

Shreveport. — A safety council embracing all the North Louisiana and Arkansas properties of the Arkansas Natural Gas Corporation and its subsidiaries has been organized here with Walter Hopper as president and J. C. Hamilton as secretary.

The council was formed under direction of the safety division of the Mid-Continent Oil and Gas Association. Local councils in the Arkansas Natural Gas Corporation will be formed at Pine Bluff, Little Rock, El Dorado, Hope, Arkansas; Texarkana, Arkansas, and at Homer, Vivian, Monroe and Tullos in Louisiana. Plans are under way to secure assignment of a safety engineer of the United States Bureau of Mines to this territory, Mr. Hopper said. The bureau has announced it can begin work here by January 6.

Members of the company committee aiding the council are: E. N. Watkins, R. W. Curran, Keith Jones, A. H. Weyland, H. C. Otis, C. L. Caster, Paul F. McBride, H. R. Dickerson, J. R. Munce, W. D. Matin, John H. Mobley, C. W. Robbins, W. H. Buckley, J. C. Hamilton, and John L. Fletcher.

Showing the "shredded wheat" type of dwelling used by men employed to drill on a "Jungle Job" in Borneo. The house is comfortable and rain-proof for a year or two, according to Mr. North.

C. V. North, whose letters are addressed to him at Miri, Sarawak, Borneo, via Singapore, wrote THE OIL WEEKLY a short letter telling something of life in the "wilds of Borneo."

Mr. North says that he is at present "on what we call a 'Jungle Job,' or in other words, a wildcat, located on a river somewhere in Borneo." He says, " I don't know where we are, and sometimes think that no one else does. We live in 'shredded wheat' houses which are quite comfortable and rain-proof for the first year or two. The climate is all that a person could ask for."

Mr. North, accompanied by 11 Chinese coolies, arrived recently at the scene of the wildcat on the river 'somewhere in Borneo' for the purpose of rigging up a

Wildcat well, or "Jungle Job" on a river in Borneo, where C. V. North was dispatched to rig up the rotary outfit

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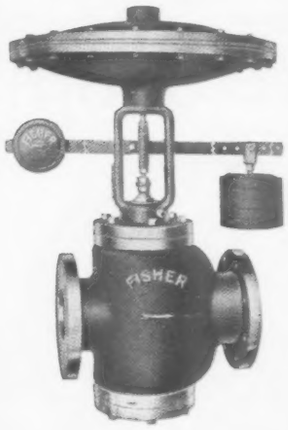

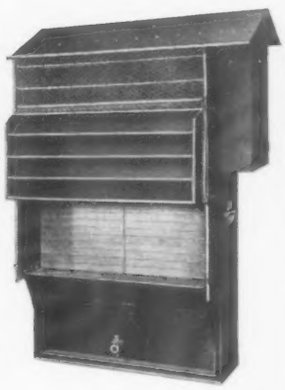

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Oklahoma--Kansas Field Notes

WARREN BAKER, *Staff Representative, Tulsa, Oklahoma*

Two Extensions Enhance South End of Oklahoma City

TULSA.—The south sector of the Oklahoma City field was in prominence during the past week with two extension wells completed. These completions added materially to the future potential prospects of the pool, since it was doubtful what the south end might do. Both wells are producing in the Detritial or sand zone.

Sinclair Oil & Gas Company and Amerada Petroleum Corporation extended the pool a half-mile to the south when their Kinter 2, in the SW SE Section 30-11-2w, blew in for 7040 barrels in 13 hours from the sand drilled to 6355 feet. Oil sprayed over the ground for more than half mile.

No sooner had the excitement over this test died down than the Sinclair Oil & Gas Company's School Land 1, NEc Section 36-11-3w, located more than a half-mile west of the Kinter extension well, was bailed down and blew in for 415 barrels the first hour. It had the sand at 6394 feet. It made 6683 barrels initial flow, after which it was shut in for proration.

Other tests in the south end are now occupying attention from oil men. The Skelly Oil Company's Hoopes 1, NWc NE Section 31-11-2w, south offset to the Kinter 2 extension well, is but a very short distance above the sand producing horizon and is expected to be an early completion. It was forced to shutdown last week due to water and the bringing in of the Kinter 2. Total depth is slightly below 6270 feet. In addition to this well there are others that are along the south and southeast edge that are being watched, although the others are not as deep.

The proving of this additional territory to the south caused several new locations to be staked and an active campaign for production along this edge is expected. The south end of the field had previously been hard hit due to finding of heavy water production in the Arbuckle lime. A thing that adds to the importance of the strikes is that the Detritial zone seems to be leveling out in this direction, which may mean that it will cover considerable area.

Several Big Wells

In addition to the above two extension wells, four other tests were drilled in during the week. The largest of which was the Indian Territory Illuminating Oil Company and Foster Petroleum Corporation's Trosper et al 2, SWc Section 13-11-3w, offsetting the Shaffer, Briscoe & Hall's Childs 1, original west extension well. The Trosper et al 2, made 4404 barrels the first five hours and 25 minutes, with its best flow being 1060 barrels in one hour. The first 19 hours and 25 minutes it did 15,606 barrels. Top of the sand was 6377 feet with the total depth 6392 feet. This made the sixth producer in the Detritial zone.

Mid-Kansas Oil & Gas Company at least temporarily completed its drilling on the Fortson lease when No. 5, came in for 3654 barrels the first 14 hours and 2602 barrels the next 10 hours. It is producing from the lime at 6200-6562 feet. The location of the well is the SE SW NE Section 24-11-3w. It is also making around 20,000,000 feet of gas.

The Indian Territory Illuminating Oil Company and Foster Petroleum Corporation's Nettie Emerson 1, NEc SW Section 30-11-2w, came in earlier during the week for an estimated flow of 100,000,000 feet of wet gas. It was permitted to flow open but 10 minutes, during which time it looked like the largest gas well in the Oklahoma City field and one of the largest in the state. It is also in the south end of the pool.

While these wells were holding attention of field workers generally, engineers of the Indian Territory Illuminating Oil Company and Foster Petroleum Corporation were faced with a wild gasser in Wheeler 2, SE NW SE Section 13-11-3w, in the north end of the pool. Drillers were running pipe at 6114 feet, total depth, when gas broke through. A total of 206 joints of pipe had been lowered in the hole. After clearing mud from the hole gas broke around the surface casing and was seeking its way to the surface through the red bed horizons, which extend downward from the surface about 2000 feet. Gas commenced coming up through crevices several hundred feet from the derrick. A danger line was established one-half mile from the well. Six nearby wells were shutdown immediately. Considerable water was coming up through the crevices. Late reports state they believe the well is being gotten under control.

Peak Output Reached

Production of the field reached a new high point of 92,187 barrels last week from 26 wells, at which time there were 35 wells in the pool. Later during the week production was 61,900 barrels from 14 wells, with 24 shut in.

The new completions last week raise the present open potential of the pool to approximately 200,000 barrels per day and with other early completions due the potential will go over that figure by the time this appears in print.

The discovery well of the field, Indian Territory Illuminating Oil Company and Foster Petroleum Company, in the C SE SE Section 24-11-3w, has now produced more than a million barrels of oil. The well came in on December 4, 1928. It has lost through proration and a few days shut in at the completion date approximately 35 days of this time. It has been deepened at intervals until the present depth is 6564 feet.

An important well due for early completion is the Mid-Kansas Oil & Gas Company's Mollman 1, SEc Section 23-11-3w, which is to the southwest of production. At the last report cement was being drilled out and things made in order for production.

Several wildcat tests in the region are being watched. T. B. Slick's Martin 1, NEc Section 13-13-1w, is coring at 6188 feet in the Wilcox sand with nothing showing. Slick, Prairie Oil & Gas Company and Phillips Petroleum Company's Sudik 1, C NE NE Section 8-10-2w, south of the pool, found additional gas and oil last week. At last reports it had succeeded in drilling up the bailer and was making hole again at 7437 feet.

Tulsa.—Raymond C. Moore, state geologist for Kansas and head of the department of geology for the state university and J. W. Ocherman, also of the Kansas University geology faculty, have been in the Arbuckle Mountains of Oklahoma, where they gathered more than 200 pounds of specimens of various outcroppings and fossils. John Fitts, geologist of Ada, guided them over the territory.

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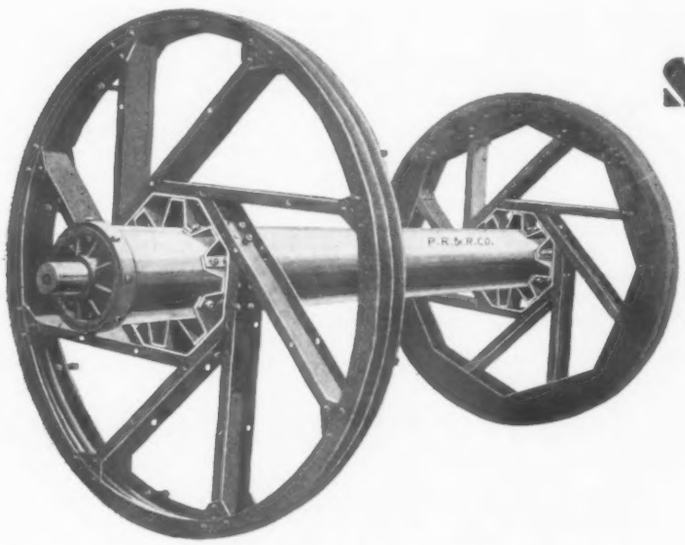

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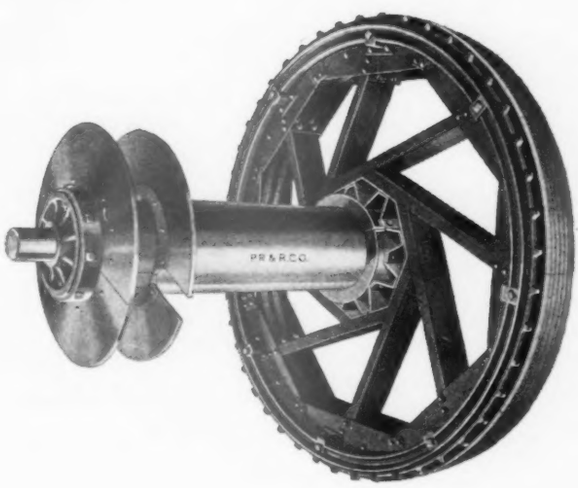

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Water Intrusion Feared In East Earlsboro

TULSA.—The completion of a large number of tests in the East Earlsboro field was the most important development in the Greater Seminole area last week; appearance of water in nine wells overshadowed the good completions. The water intrusion may lower the potential future production of the area. The dry holes affect several drilling wells and the spread of the new pool may be checked shortly.

Burke-Greis Oil Company's Jones 3, NE SW SW Section 17-9-6, had the Wilcox sand at 4267-4315 feet. It had a show of black oil and 1600 feet of water. It is shut down for orders. The same company's Jones 4, SE SW SW Section 17-9-6, had one bailer of water per hour at 4261 feet. It was plugged back to 4257 feet, where it is believed to have shut the water off. It swabbed 75 barrels of black oil in five hours.

Burke-Greis Oil Company's Wentz 1, NW SE SW Section 17-9-6, filled up 1000 feet with oil and water from the Wilcox sand at 4277-88 feet. The same company's Wentz 2, SW NE SW Section 17-9-6, had the Hunton lime at 4118 feet and was showing water. The Hunton lime, however, was only two feet thick and it may produce in the Wilcox sand.

These wells in Section 17-9-6, are defining the pool to the west edge.

Prairie Oil & Gas Company's Caulkins 4, SE NW SW Section 17-9-6, had 200 feet of water from the Wilcox sand at 4261-71 feet.

Prairie Oil & Gas Company's Wisner 2, NE NW Section 18-9-6, had 500 feet of black oil and some water in the Wilcox sand at 4261 feet and which was penetrated seven feet. It was swabbed at 4275 feet and made five barrels of oil and 70 barrels of water in 15 hours. This well is on the north end of the East Earlsboro pool.

Prairie Oil & Gas Company and T. B. Slick's Wilson 1, SWc Section 8-9-6, farthest northeast well, had a show of water at 4301-05 feet in the Wilcox sand. Total depth is 4316 feet in lime and it appears a definite failure. McCulloch Oil Company's Campbell 1, NW SE Section 20-9-6, made three bailers of water per hour from the Wilcox sand at 4314-25 feet. At 4343 feet it had 2000 feet of water in the hole.

Magnolia Petroleum Company's P. Anderson 3, NEc Section 18-9-6, filled up 500 feet with water from the Wilcox sand at 4374-80 feet.

Continental Oil Company's Miller 1, NE SE SE Section 24-9-5, southwest most well, swabbed 450 barrels in 12 hours from the Wilcox sand at 4167-85 feet. Amerada Petroleum Corporation's Sullivan 3, SE SW NW Section 17-9-6, swabbed 500 barrels in 17 hours.

Burke-Greis Oil Company's Jones 2, SWc Section 17-9-6, swabbed 320 barrels in 17 hours from total depth of 4235 feet. Gypsy Oil Company and Devonian Oil Company's Payne 8, SW SE SE Section 18-9-6, flowed 1080 barrels in 16 hours on air lift. Prairie Oil & Gas Company's Jefferson 1, NE NW SE Section 19-9-6, flowed 3215 barrels in 14 hours on compressed pressure.

Shell Petroleum Corporation's Hooper 5, SWc NE Section 19-9-6, had 2800 feet of oil in the hole from the Wilcox sand at 4095-4112 feet and was preparing to test. The same company's Hooper 7, SWc SE NE Section 19-9-6, swabbed 1470 barrels in 24 hours.

Sinclair Oil & Gas Company's Nichols 6, SE NE NW Section 19-9-6, was shot with 50 quarts from 4185-4210 feet in the Wilcox sand and flowed 6585 barrels in 24 hours on air-gas lift. It made 2980 barrels the following 24 hours and 2605 barrels the next, while on proration.

Independent Oil & Gas Company and Atlantic Oil Producing Company's Fixico 1, NW SW NW Section 20-9-6, made one flow from the Wilcox sand at 4213-22 feet, after which it was shut in.

Amerada Petroleum Corporation's Fullerton 1, NE SE Section 19-9-6, had 1500 feet of oil in the hole at 4180 feet. The well swabbed 430 barrels of oil in six hours, when it was shot, the shot resulting in it becoming ignited. The rig was destroyed.

Continental Oil Company's Motley 1, SW SE SE Section 10-7-3, offsetting the Vineyard discovery well, is drilling at 4440 feet in the Hunton lime topped at 4350 feet. It flowed 335 barrels by heads.

C. R. Obermeyer of Oklahoma City brought in a big Asher townsite well during the week. The well, in Block 51, is bottomed at 3668 feet in a soft white sand. The hole was filling up when swabbing was commenced, which resulted in it starting to flow by heads. The first hour it produced 100 barrels flowing from 10 to 15 minute intervals. This is one of the north most producers at Asher.

Voshel Pool Promises Major Developments

WICHITA.—The Voshel pool of McPherson County, Kansas, has the greatest possibilities of any pool in the state of becoming a major producing district. The wells so far completed in the pool are holding up steadily in production and new producers are continually adding territory to the proven area.

The west side of the area is holding attention at present, where the Mid-Kansas Oil & Gas Company's Kuns 1, C SE SW Section 11-20-5w, is preparing to test the Viola lime. The Viola lime was topped at 3194 feet, and, considering the surface elevation, it is said to be more than 100 feet higher than the Washabaugh well and approximately 70 feet higher than the Empire Oil & Refining Company's Voshel 1. The Mississippi lime was missed. Such indications give promise that it may find production.

Mid-Kansas Oil & Gas Company's Voshel 1, NEc NW NE Section 9-21-3w, has the ear-marks of a good producer. It is making about two bailers of oil per hour from sand at 3190-94 feet, where it is under-reaming the six-inch casing from 2948 feet.

Empire Oil & Refining Company's Voshel 1, NE SE NE Section 9-21-3w, flowed 372 barrels in 24 hours and was shut in for lack of storage. It is estimated that this well could produce several times this amount if put on the swab.

Phillips Petroleum Company's second well on its Shutts lease in the SWc NE Section 5-12s-17w, Ellis County, is swabbing around 20 barrels per hour from a lime pay at 3263-77 feet

The third well in the Hoisington area of Russell County is the Prairie Oil & Gas Company and T. B. Slick's Sellens 1, NE SW Section 36-15-13w, which increased its production to 400 barrels after being deepened 16 feet.

The Gorham pool of Russell County was extended when the Midwest Exploration Company's Benson 31, SWc Section 4-14-15w, came in for eight barrels per hour on the swab from 3072-86 feet.

Continental Oil Company's Aldrich 1, NE SE Section 7-18-25w, rank wildcat producer of Ness County, is to be put on the pump. It is swabbing 135 barrels of oil a day and half a bailer of water per hour from 4430 feet.

T. B. Slick and W. K. Jarrett are plugging to abandon at 5260 feet their Meyer 1, SEc Section 13-34-8w, deep test in Harper County. Slick will also abandon Thompson 1, NWc Section 19-32-6w, which has a depth of 5165 feet.

An important discovery was the finding of the Wilcox sand in a test near Severy, in Elk County. This development overshadowed all other activities of eastern Kansas. The test is that the Clark Oil Company et al's Sloan-Bascom 1, SWc Section 9-29-9e. The Wilcox sand was found at 2640 feet and oil rose in the hole faster than drillers could bail it down.

The tricky chat producing horizon in the Robbins pool, south of Wichita in Sedgwick County, yielded George Dickey, pioneer operator of the area, a producer in Robbins 1, Section 20-28-1w. The well, which filled up 1000 feet and is estimated at better than 100 barrels, is situated between two dry holes.

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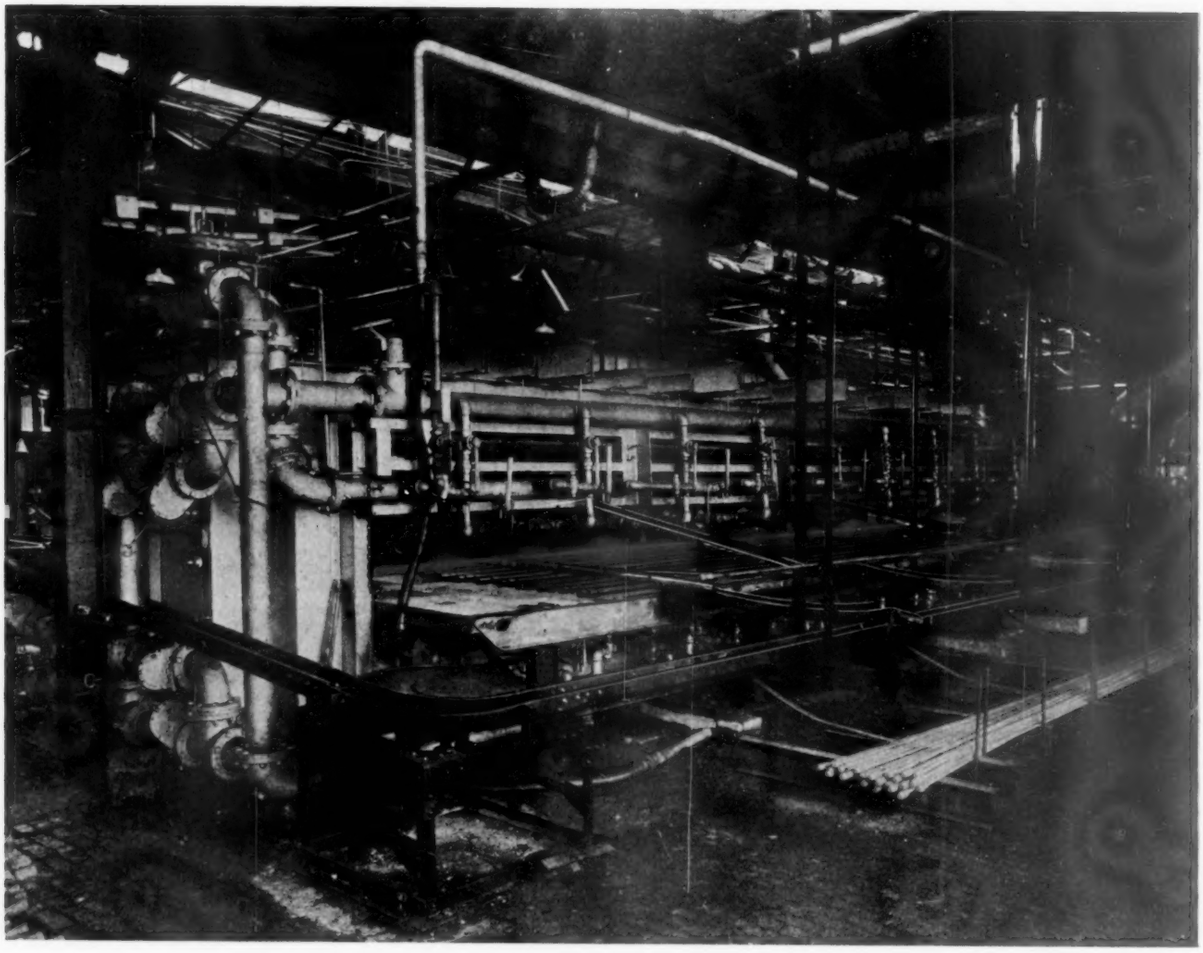

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North and West Texas Field Notes

H. H. KING, *Staff Representative, Fort Worth, Texas*

Ector Drilling Rush Threatened; Settles Area Extended

SAN ANGELO, Texas. — Immediate starting of four tests in the Connell-Kloh pool, Ector County, where some effort has been made lately to postpone unnecessary development, was in prospect early this week. These four locations will require as many offsets to the east. The unloading of two steel derricks by Cosden Oil Company was accompanied by orders being given by Landreth Production Corporation for the digging of cellars for a pair of tests that will serve as offsets to the tests proposed by the former. These two concerns propose to drill on high priced leases acquired from the University of Texas recently. Should these tests be drilled, Humble Oil & Refining Company, Penn Oil Company and Atlantic Oil Producing Company, who are joint owners of acreage adjoining, will have to drill as many offsets, while both Gulf Production Company and Amerada Petroleum Coropration will be drawn into the campaign later by drainage.

This Ector County area has been threatening to break loose with a development campaign for several weeks, owing to the fact that the restless lease owners possess holdings between the original Connell pool and the wildcat oil producer on the Kloh et al fee. The latter was brought in early last October as a small flowing well at 3715-44 feet by Humble Oil & Refining Company and associates. Although the oil produced in this area is about 34 gravity, it has a sulphur content of 2.5 per cent., and is said to be less attractive for refining than Crane County oil of slightly less gravity. West Texas crude purchasers are not soliciting this grade of oil for purchase, and restricted production is probably in store for any new completions added. The drilling of only six wells to each 80-acre tract has been made agreeable to all lease owners as result of the plan being fostered by E. A. Landreth, president of the Landreth Production Corporation.

Settles Extension

Extension of the Settles horizon in Glasscock County three miles to the west was considered definite early this week when Glasscock Brothers et al's W. P. Edwards 1, located 300 feet from the south and 1650 feet from the east lines of Section 18, Block 33, cored oil saturated lime at 2276-88 feet, with a good show of oil. Casing has been cemented on top of the formation to drill in and complete later in the week. Should this well fulfill expectations the Settles 2200-foot horizon will have been given a total length of about eight miles in an east and west direction, with a maximum width of one mile.

Big Lake Oil Company has temporarily suspended drilling on its two deep producers on University lands, Big Lake field, to determine if production of oil and gas will increase naturally as was the case with the discovery well of the deep horizon on an adjoining lease. University 4-C recovered tools Sunday, and during 17½ hours gauged 272 barrels of high gravity oil from sandy-lime at 8220 feet. This well lost tools when production was encountered at the above level, and 515 sacks of baroid were used in killing the oil and gas flow. University 3-C is being allowed to clean itself of mud-baroid and water that was used while fishing out tools and drilling line, and Sunday flowed 105 barrels of high gravity oil from sandy-lime at 8375-85 feet. University 1-C is cementing 6⅝-inch casing at 8000 feet, and University 2-C is running 5-3/16-inch pipe to cement at 7950 feet. Kingwood Oil Company's search for deep production on the Sugg ranch in Irion County is reaching an interesting stage, and at last reports was drilling in lime at 7745 feet after passing up a show of gas at 7656-57 feet. A string of 4½-inch pipe was cemented at 7550 feet in this test. Some oil is appearing in the hole from formations below this casing point.

Field work in the Church & Fields area, Crane County, is becoming more active as result of recent attractive completions and extensions to the west and northwest of the old area. J. D. Collett & O'Keefe have made a deal to get a test drilled in the southwest corner of the W½ NE¼ Section 34, Block 30, with the Weekly Oil Corporation, which is moving in equipment. Production was recently established to the west.

Taylor-Link Pool

Taylor-Link pool, Pecos County, produced 9490 barrels of 29-31 gravity oil from 28 flowing and pumping wells during the 24-hour period ending November 24. Landreth Production Corporation and World Oil Company, joint operators, produced 7045 barrels of the above amount from 14 wells. The former is running all of this jointly owned production to field storage tanks pending the starting of pumping operations on an eight-inch carrier to a rack at McCamey, where facilities are available to deliver crude in tank car lots to purchasers.

Flowing an average of 15 barrels of oil daily by heads, Cranfill-Reynolds Company and Associates' wildcat test on the Masterson ranch, Pecos County, remained at its old depth of 1440 feet during the past week. Since other tests are proposed for this immediate area the well may be completed temporarily. No market is available for the oil, which has been diverted to pits.

Texas Pacific Coal & Oil Company failed to make a test of a gas flow encountered in its Persidio County wildcat on the Bogel ranch, owing to difficulty in getting a casing seat. This test was drilling in hard gray lime early this week at 3165 feet.

Oil production from lime horizon on the southwest edge of the Shipley pool, Ward County, became established when the Shell Petroleum Corporation's Sloan Owen 1 swabbed 20 barrels oil with trace water after swabbing 140 barrels of fluid on the previous day. The latter represented production accumulated while eight inch casing was being lowered to 2691 feet. The well is showing 35 gravity oil from lime at 2886 to 2918 feet, with shale breaks.

Big Lake Pipe Line

San Angelo, Texas. — Reagan County Purchasing Company is completing construction work on a eight-mile six-inch crude line extending from its Big Lake field pump station to its Kemper tank farm, Reagan County. This line parallels an old eight-inch carrier that is soon to be junked because of corrosion damage. The latter handles all crude produced in the Big Lake field to Kemper station, where it is delivered on contract to the Humble Pipe Line Company for the account of the Humble Oil & Refining Company. The line originally was a combination eight- and 10-inch carrier, and after a few years of service it had to be turned 50 per cent. because of corrosion. The

10-inch joints were later taken out, making it a solid eight-inch, and many joints have been replaced in the latter. Corrosion is hardly noticeable on high pressure lines, and it is expected that the six-inch carrier will be of much longer service, as the development of the 8220-8523-foot horizons in the field assures a full line capacity daily over a long period.

Continental Is Adding to Storage in West Texas

San Angelo, Texas.—Continental Oil Company is adding to crude stocks in the West Texas district at a faster rate than any other producer or purchaser, with more than 800,000 barrels accumulated since July 23, 1929. All of the company's production from the Yates field, including about 5100 barrels of seepage oil daily, is being gathered and transported by the Humble Pipe Line Company to Kemper, Reagan County, where eleven 80,000-barrel steel tanks were leased last July from the Reagan County Purchasing Company. The eleventh tank will be filled late this month, and then the current oil runs from Yates field will be pumped into nine 55,000-barrel steel tanks leased from the Group One Oil Corporation in the Big Lake field proper. It is planned to store about 450,000 barrels of crude in the latter tankage.

Arrangements have been made for relaying the crude from Kemper to the Big Lake field tanks through the Reagan County Purchasing Company's pipe line system, which also delivers on contract all crude produced in the Big Lake field to the Kemper station of the Humble Pipe Line Company.

Joines Pool in Coleman County is Extended

Coleman, Texas.—The Lloyd Oil Corporation and C. M. Joines' semi-wildcat test on the G. B. Bartholmer land, William Farris Survey 279, extended the Joines pool in Coleman County a short distance to the northeast by flowing 130 barrels of 40-41 gravity oil during first 18 hours from sand at 1443-45 feet. Joines et al's wildcat test on the J. L. Stewardson farm, Section 96, E. T. Ry. Survey, opened this pool late in September with a production of 30 barrels of oil daily, with some water at 1456-66 feet.

Four other tests are now drilling in the pool, with Tidal Oil Company entering this week with a rig. Humble Pipe Line Company is running the oil from both producers.

Max Gutzman and Bob Aldrich's semi-wildcat test on the Haas ranch, Coleman County, has been completed as a 7½ million cubic foot gas well at 1483 feet.

In Northern Callahan County, E. P. Campbell and Humble Oil & Refining Company's I. N. Jackson 1, located in the NW¼ Section 20, E. T. Ry Survey, is credited with having flowed 185 barrels oil during first gauge, and 265 barrels during second 24-hour period from the top of sand encountered at 1124 feet. This is the largest oil producer completed in the county in many months. The oil tests above 41 gravity.

Hobbs Failure

Artesia, New Mexico.—The first failure for the Hobbs field, located in eastern Lea County, New Mexico, was scored early this week when the Shell Petroleum Corporation's Terry 1, Section 22, Township 19, Range 38, encountered hole full of sulphur water in the expected pay horizon at 4235 to 4238 feet. This test is slightly more than a mile south of production and registered only a small show of oil in lime at 4207 to 4218 feet.

Sabine Wildcat

Shreveport, Louisiana.—R. L. Gay, Trustee's Bowman-Hicks A-1, Section 34-8-12, Sabine Parish, 12 miles east of Zwolle production, which encountered oil and gas show at 2505-13 feet in chalk rock, was threatening to blow out late Tuesday as operators were preparing to come out of the hole with the drill stem.

Magnolia Petroleum Company started bailing Tuesday afternoon in McCook & Hibbler 1, Section 22-21-10, Webster Parish, at total depth of 6965 feet.

Brazoria County Wildcat Swabs 72 Barrels Fluid

Houston.—Shell Petroleum Corporation's Blakely-Winston 1, first test on that company's seismograph prospect two miles northeast of Danbury, Brazoria County, was reported early this week swabbing 47 barrels fluid daily, 72 per cent 22.4 gravity oil with brackish water. The hole will probably be deepened.

This well is in Section 14, H. T. & B. Survey. A 17-foot joint of screen was set at total depth of 1577 feet, and 9⅝-inch pipe is above that, inside 12½-inch casing set over the sand. When the well failed to flow through the casing, 2½-inch tubing was run.

South Calcasieu Test Abandoned in Salt

Houston.—The Texas Company during the past week abandoned Calcasieu Lake A-4, a test in the southern part of Calcasieu Lake in 13s-9w, Cameron Parish, Louisiana. The bottom of the hole was at 5885 feet in lime rock. This was the second test drilled by The Texas Company on the South Calcasieu Lake dome.

The first test drilled by The Texas Company on South Calcasieu Lake dome was abandoned in anhydrite at 3500 feet. The Louisiana Land & Exploration Company had previously drilled two wells on that dome, and no production was developed, although salt was encountered in one well. The Texas Company now has location for its third test on this dome, Calcasieu Lake A-5, in Section 36-13s-9w.

On the Vermilion Bay dome The Texas Company's Vermilion Bay A-4 is now drilling sandy shale at 3585 feet. This is another seismograph-discovered dome. Three earlier tests there did not develop any production, although salt was encountered.

Sasakwa-Allen Field

Tulsa.—Several wells were completed in the Allen-Sasakwa field.

The most important of which was the Mid-Continent Petroleum Corporation's Fleet 16, SW SE SE Section 7-5n-8e, in the original deep area of the Allen field, southern Seminole County, Oklahoma. This well is flowing by heads between the six and eight-inch casing, while drilling in the Viola lime below 4050 feet. The flow is from the Hunton lime.

Mid-Continent Petroleum Corporation's Harjo 4, SE NE Section 14-5-7, in the Sasakwa extension to the Allen field, had a hole full of water in the second Wilcox sand at 4335 feet.

Indian Territory Illuminating Oil Company's Matthews 1, NW SW Section 13-5-7, topped the Wilcox sand at 4374 feet and at 4376 feet was making two to three bailers of oil per hour.

Magnolia Petroleum Corporation's Reed 2, NW NE SW Section 13-5-7, in the same area, swabbed 560 barrels from the Wilcox sand in which it has a total depth of 4296 feet.

Among other tests reaching producing horizons the past week was the Blackwell Oil & Gas Company's Hall 1, SW SE SE Section 6-6-8, in the Sasakwa pool, which has 400 feet of oil in the hole from the Gilcrease sand at 2985 feet. It will be shot.

Stephens County

Tulsa.—The Palacine pool of Stephens County, southern Oklahoma, got its second producer when Wirt Franklin Petroleum Corporation's Green 1, NW SW NW Section 9-2s-6w, came in for an initial of 921 barrels. The depth is 3164-90 feet.

One quarter of a mile southeast of the discovery well the Wirt Franklin Petroleum Corporation is abandoning Bonner 1, NWc SE Section 9-2s-6w, at 3939 feet in gray lime.

As a result of the Green completion five new tests were staked, which increased the number of tests to seven. The pool now has two oil wells and two gas wells producing from two distinct horizons.

Mykawa Dome

Houston.—In the Mykawa field, Harris County, Humble Oil & Refining Company's Minnetex 2 is drilling gravel and shale at 186 feet. This is a direct south offset to the same company's Siadous 1, second gas well completed in the field.

There are two operations there in addition to the test being drilled by Humble Oil & Refining Company. Watts Drilling Company's Hubert 1 is down 2250 feet in shale and boulders; and Higgins Oil & Fuel Company's E. G. Siadous 1, located on a 20-acre tract in the William Lovett Survey, is drilling below 50 feet.

Three Van Tests Nearing Sand; Unit Agreement Completed

CORSICANA, Texas.—Coring for a casing seat near the 2600-foot level was in progress early this week on the south offset to the discovery well of the Van pool, Central East Texas, with two other offsets scheduled to reach the casing level before the end of the week. The performance of these three tests upon completion will be observed with great interest, as little information was gleaned from the discovery well as to the prolificness of the Woodbine sand horizon in this area owing to the latter being placed on a restricted production basis promptly after blowing in October 14 with an initial gauge of 1790 barrels of 36 gravity oil. The discovery well has maintained an even flow of about 260 barrels daily through a one-half-inch choke and with 50 pounds back pressure for the past month. The hole is cased with 9¼-inch pipe.

Pure Oil Company's Thompson 1, a south offset to the company's discovery well on the W. T. Jarmon farm, was looking for a casing seat early this week, and will probably be the first completed. Shell Petroleum Corporation's Tunnell 1, an east offset to the producer, was drilling below 2350 feet Monday, and Tunnell 2, 300 feet south of the former, was drilling at 1710 feet. The latter two encountered layers of Pecan Gap and other formations that did not appear in the log of the discovery well, thus indicating minor faulting conditions.

Unit Plan Complete

Operation of the Van area on a unit plan basis became unanimous early last week when The Texas Company delivered its signed agreement after a few weeks delay because of the papers having to be approved by the general office in New York. The plan is retroactive to November 1, with the following companies, which are believed to be in control of leases on the entire producing area, taking part: Pure Oil Company, The Texas Company, Shell Petroleum Corporation, Sun Oil Company and Humble Oil & Refining Company. Gulf Production Company is reported to own a one-third interest in the Humble Oil & Refining Company's block of leases to the northeast of the producer, but the latter has exclusive control of operations.

An area aggregating in excess of 5000 acres has been blocked out in all directions from the Van pool well to be included in the unit plan of operation. Pure Oil Company was selected to carry out the unit plan of operation because of controlling leases on approximately 80 per cent of this area, and also because of its discovery rights.

The five separate companies taking part in the unit plan will have a voice in the method of development and operation of the area through the creation of a supervisory committee consisting of one representative from each company, as is the case with other unit plans now in effect in Central West and West Texas. The Van pool committee will consist of the following: B. S. SoRelle, Pure Oil Company; M. B. Sweeney, Sun Oil Company; John R. Suman, Humble Oil & Refining Company; E. G. Allen, Shell Petroleum Corporation, and Fred C. Seeley, The Texas Company. The field staff now on the job consists of the following: L. E. Lewis, superintendent of drilling and production, with A. A. Goodman, assistant superintendent; Ray Pharr, pipe line superintendent; and E. M. Rice, field paleontologist. The post-office address of the field men is Grand Saline, which is also the unloading point for field supplies shipped in by railroad.

Unitization of the Van area was considered by the companies taking part as the only means of effectively enforcing a program that assures conservation of both oil and gas production. Wasteful drilling and operating methods followed in the wake of the discovery of the seven Woodbine sand fields in the Corsicana-Mexia district, and Van pool lease owners were unanimous in adopting a plan that would avoid a repetition of past experiences in the district. Members of the operating committee have pronounced the plan as being for the best interest of the royalty owners as well as the lease owners, as the regulation of drilling and production assures a maximum crude recovery from each property.

Accounting Method

As leases contributed by various members of the unit plan go on production a separate account will be made, and all profits above operating expense accrue for the benefit of said owner, thus placing the unit plan on a strictly productivity basis, with only one field organization functioning instead of five. Royalty owners will enjoy the same privileges in regard to oil payments as any competitively drilled field, and will be better protected in regard to excessive offset drainage that has prevailed in most all fields drilled up rapidly.

Pure Oil Company is nearing completion on the first units of its field camp on the Cook land to the west of the producer, and all employes will be provided with living accommodations. Dormitories will be available for single men, and houses for married employes. A dining room is now in operation at the camp. This plan has cut short the efforts of typical oil field town promoters to set up their plans near the field, and the undesireables that flocked into the little village of Van when oil was discovered have drifted on to other points.

Arrangements have been made for the Pure Oil Company to gather and market the crude output of the Van pool during the first year, and the company has completed about 50 per cent of the construction work on a 10-inch line from its field tank farm to a 70-car capacity rack at Chandler, a distance of 19½ miles. Each member of the unit plan will have the refusal of their own share of the oil, however, and other lines will later invade the area should production justify. Two 55,000-barrel steel tanks have been completed on the tank farm, and a similar sized tank for the storing of water for drilling purposes. Pure Oil Company eventually plans to build an eight-inch carrier from Chandler to its refinery at Smith Bluff, Texas.

Although lease activity is beginning to subside in Van Zandt and adjoining counties after six weeks of buying, this campaign is starting to bear fruit in the form of wildcat drilling. In Smith County, Deep Rock Oil Company, Dan Daniels and Adair are moving in rotary equipment to drill a test on the Bowdoin farm, Martin V. Lout survey. A block of 3000 acres is held in this area, lying to the northwest of Lindale, and spreads of acreage have been sold to the Lion Oil Refining Company, Tidal Oil Company, Gibson & Johnson Interests and the Mid-Continent Petroleum Corporation. Frank Foster has the contract to drill the test to 3300 feet, with the spudding date set for the first week in December.

Gulf Production Company has taken a large drilling block in Central part of Wood County, and will drill shortly in the southeast corner of the R. H. Stewart 145-acre lease, Wesley Tollett Survey.

W. H. Roeser of Fort Worth and associates are rigging up for another deep test to be located several miles northwest of previous exploration work. Location has been made on the W. L. Moody 200-acre lease, Jas. Welsh survey. Humble Oil & Refining Company's so-called Blackfoot lease block to the west is also to be tested in the near future.

Gulf Coast Field Developments

JACK LOGAN, *Staff Representative, Houston, Texas*

Barbers Hill Field Leads All Coastal Producers

HOUSTON.—For the first time in its history Barbers Hill during the past week forged into first place among Gulf Coast fields in volume of production, the average daily output for the seven days ending November 23 having been 20,700 barrels, according to an estimate of the American Petroleum Institute.

Spindle Top, which has been the leading Coastal fields since the beginning of flush deep sand production early in 1926, was barely crowded out of first place during the past week, its average daily production having been 20,600 barrels.

In connection with a comparison of current production figures at Barbers Hill and Spindle Top, it should be pointed out that in the former there is a certain amount of competitive drilling, while Spindle Top is more or less controlled by one company, the Yount-Lee Oil Company, which brings in a new well there only occasionally, most of the activity consisting of working over or deepening old wells.

Both Barbers Hill and Spindle Top dropped off slightly in production during the past week as compared with the previous week, when each field had an average daily production of 22,350 barrels.

Humble in the meantime remained steady, its production of 18,200 barrels daily for the week ending November 23 having been the same as for the week previous, and approximately 1000 barrels higher than for the week before that.

Old Fields Reliable

There were six Texas Gulf Coast fields which produced more than 10,000 barrels daily during the week ending November 23; as follows:

Barbers Hill	20,700
Spindle Top	20,600
Humble	18,200
Sugarland	13,600
Pierce Junction	11,500
Hull	10,250

All of these except Sugarland are among the older fields of the coastal plain. It is interesting to note that the first three are particularly long-known domes, and that Spindle Top and Humble, discovered in 1901 and 1905, respectively, have over 100,000,000 barrels of crude each to their credit. Spindle Top and Humble had each declined to around 3000 barrels daily production when deep sands brought increased yield, and Barbers Hill became an important field for the first time only when deep production was established late in 1928.

Among the Gulf Coast fields there were, according to the latest estimate, five with daily production of 5000 to 10,000 barrels, as follows:

Raccoon Bend	9,000
Sulphur, Louisiana	6,000
West Columbia	6,000
South Liberty	5,700
Goose Creek	5,400

In the Texas Gulf Coast region there were eight fields with daily production of 1000 to 5000 barrels, and in Coastal Louisiana there were five such fields.

Average production of all fields of the Gulf Coast during the week ending November 23 was 171,650 barrels daily, as compared with 134,550 barrels per day for the corresponding week of 1928, with both the Texas and Louisiana divisions of the district showing gains as follows:

	1928	1929
Coastal Louisiana	21,150	23,300
Coastal Texas	113,400	148,350
Total Gulf Coast	134,550	171,650

2000-Barrel Completion in Humble Field

Houston.—One well was completed in the Humble field, Harris County, during the past week, leaving only a few other wells in that field at interesting depths at present. The completion was Humble Oil & Refining Company's Trahan 1, which came in flowing 2000 barrels pipe line oil daily from 5050 feet. This well is a direct east offset to The Texas Company's Dunman 1, which came in several weeks ago as an exceptionally large producer. Humble Oil & Refining Company's Williams 6, north offset to the Texas Company's Dunman 1, is now drilling around 1000 feet. The Texas Company is rigging up Dunman 2 and 3 and has location made for No. 4.

All the above mentioned wells are in the south part of the Humble field. The Texas Company's Dunman 1 is approximately 3500 feet southwest of the original deep producer of the southeast part of the field, South Texas Petroleum Company's Morris 1. Other wells that have been started on the south-southeast flank of the dome include Humble Oil & Refining Company's Williams 7, which has an oil show at 4825 feet, and Williams 9 and 10, building derricks. The Texas Company's Stevenson Fee 41 is drilling shale at 4527 feet. South Texas Petroleum Company's Morris 12 is drilling sticky shale at 4655 feet, and Morris 13 is in sand at 550 feet.

Farther around the south flank of the dome to the west, and also at considerable distances off the dome, Humble Oil & Refining Company is putting down two deep tests. Its Oats 1 is in hard sand at 5300 feet, and Glass 1, deepest well ever drilled at Humble, is in sticky shale at approximately 7000 feet.

In the north end of the field Harvey Smith's Ward 2 is in sandy shale showing oil at 4355 feet, and The Texas Company House 23 is sidetracking at 3875 feet.

Two of Five Are Good at Barbers Hill Field

Houston.—In the Barbers Hill field there were five completions during the past week, all producers. Two were fair wells, but the others were only small producers.

Yount-Lee Oil Company's Chambers County Agricultural Association 9, located in the south end of the field, came in flowing 2500 barrels 26 gravity crude daily at 4850 feet. Along the eastern flank of the dome The Texas Company's Wilburn 2 came in flowing 700 barrels daily at 5115 feet, through 2½-inch tubing; 130 feet of screen had been set in the sand.

The Texas Company's Wilburn 1 did not make as good a well as No. 2. With screen set at 5177 feet, the well came in flowing 175 barrels daily through 2½-inch tubing.

Mills Bennett Production Company's G. W. Collier 1 on the southeast flank of the dome was completed an 80-barrel pumping well at 5490 feet. Moody Corporation's Ilfrey 2 came in for 140 barrels fluid, 65 per cent b.s. and water at total depth of 5196 feet.

At the beginning of this week there were several wells at Barbers Hill which had reached interesting stages. The Texas Company's Lawrence 1 was down to 5218 feet in sand and shale showing oil. Sun Oil Company's McKinney 1 had an oil show in sand and shale at 5350 feet. Rexal Oil Company's McLean 3 was preparing to pump at 5115 feet, and its Smith 1 had set screen and was preparing to bail at 2137 feet. Yount-Lee Oil Company's Woodward 4 had a thick oil sand at 5270 feet total depth.

Humphreys Corporation's Kirby A-8 on the northwest side of the dome is in hard sandy lime at 5443 feet; its Kirby C-2 is waiting on orders at 5361 feet; Kirby B-6, which tested salt water at 4120 feet, is waiting on orders; Scott 1 is in salt at 1920 feet; and McLean 1 is drilling hard at 1565 feet.

Yount-Lee Oil Company's Wood-

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ward 5 is drilling hard lime at 4000 feet; Phillips 1 is drilling shale and lime at 3830 feet. Sun Oil Company's Wilburn Fee 1 is drilling shale at 5150 feet; Wilburn Fee 2 is drilling sand at 3720 feet; and Wilburn 3 is drilling shale and boulders at 1632 feet. Mills Bennett Production Company's Smith 4 is drilling sand rock at 4850 feet; Hamman-Armstrong 3 is drilling at 4774 feet; G. W. Collier 2 is drilling sand and boulders at 1175 feet; Barber 2 is drilling shale at 3290 feet; and Wilburn 1 is drilling shale and lime at 3905 feet. Gulf Production Company's Wilburn 1 is drilling hard shale at 4744 feet. Republic Production Company's Kirby 3 is drilling rock at 2725 feet.

Two Refugio Completions Net 1100 Barrels Oil

Houston. — Although activity was slowed down because of unfavorable weather, there were two completions during the past week at Refugio, both being oil producers. Morgan Oil Corporation's City 3 came in flowing 600 barrels daily through a 3/16-inch choke at 3670 feet, and Mission Drilling Company's Eskridge-Heard 1 came in for 500 barrels initial production through a one-quarter-inch choke at 3660 feet.

The average daily production of oil at Refugio during the week ending November 23, according to the American Petroleum Institute estimate, was 16,200 barrels.

Texas Company Is Operating on Seven Louisiana Domes

HOUSTON.—The Texas Company has abandoned Bay St. Elaine 3, the third test of Bay St. Elaine (or Bay Coon Road) dome, Terrebonne Parish, Louisiana, in salt at 2420 feet after drilling about 60 feet into the salt.

The company has also made location for its fourth test there, Bay St. Elaine 4, at a point 50 feet north and 50 feet east of the southwest corner of Section 17-22s-18e. Each of the first three tests also was located in that section.

This dome is among the 10 which The Texas Company acquired from Louisiana Land & Exploration Company in November, 1928. The first well there was completed as a 20-million-foot gas well at 680 feet. The second test blew in with large volume of gas and some sulphur water and is now standing as a gas well, total depth 790 feet.

There are six other domes in Terrebonne Parish which The Texas Company acquired from Louisiana Land & Exploration Company and upon which it is now operating.

Its Lake Pelto B-2 is a location, and Lake Pelto B-3, located in Section 9-23s-18e, has derrick foundation now finished. Only one well has been completed on that dome, but it was a producer; it was reported to have come in flowing 17 gravity crude from 1290 feet at the rate of about 400 barrels daily the latter part of July, 1929.

On the Bay Junop (or Taylor Bayou) dome, The Texas Company is drilling its first test, Bay Junop 1, Section 28-21s-14e. That well is preparing to test a showing at 4788 feet.

Piling is now being driven for derrick and boiler foundations on the location of Lake Barre 3, in Section 30-21s-20e, the third test of that dome. The first test there proved the existence of the dome, hitting salt around 850 feet, and the second proved to be the best producer so far obtained by The Texas Company on the Louisiana Land & Exploration Company prospects. It came in at 3850 feet flowing 27.5 gravity crude at the rate of 75 barrels per hour, or 1800 barrels daily.

The Texas Company is now building derrick for its second test of the Caillou Island (Timbalier Bay) dome, Caillou Island 2, located in Section 18-23s-20e. The first test there, located in Section 19, was abandoned in a cap rock cavity at 3000 feet.

The third test is now being drilled on Dog Lake Bayou dome. It is Dog Lake Bayou B-2, located in Section 5-22s-16e, now in gumbo at 850 feet. The first well on that dome was a small oil producer at 1056-62 feet. The second test was abandoned in salt around 1750 feet.

On the Four Isle Bayou dome, The Texas Company has abandoned two tests in salt. One was in Section 23-21s-16e and the other was in Section 13.

Summing up the above detailed results of The Texas Company's activity in Terrebonne Parish, there are six domes on which wells have been completed. Through completion of 11 wells on those six domes, three domes proved productive of oil, and one of gas; the other two were established as salt domes through drilling into salt or cap rock. Net results by domes is as follows: Bay St. Elaine, three tests completed, two gas wells; Lake Pelto, one completed well, one oil producer; Lake Barre, two completions, one an oil well; Caillou Island, one completion, cap rock; Dog Lake Bayou, two completions, one oil well; Four Isle Bayou, two completions, both abandonments in salt.

R. J. Moore, formerly general manager of the Dayton Pipe Coupling Company, has resigned from that position on account of ill health.

Darst Creek Proration Program Has Only One Holdout

HOUSTON.—The advisory committee on Darst Creek proration plans, headed by F. C. Sealey of The Texas Company, Houston, and consisting of representatives of the various operators owning leases in that new field in Guadalupe County, was scheduled to hold its third meeting November 27 in Houston, although on the day previous to that date there was still no definite assurance that a program which had been proposed would be unanimously accepted and put into effect.

Aside from the hope of securing the cooperation of one operator who had not yet agreed to participate in proration plans, the purpose of the meeting was to further clarify the proposed program to those who have agreed to cooperate and to decide finally on various details of the plan.

In the second meeting of this Darst Creek operators' committee, held in Houston, November 19, practically all operators of the area expressed willingness to support a proposed plan to limit production at Darst Creek to available market outlets.

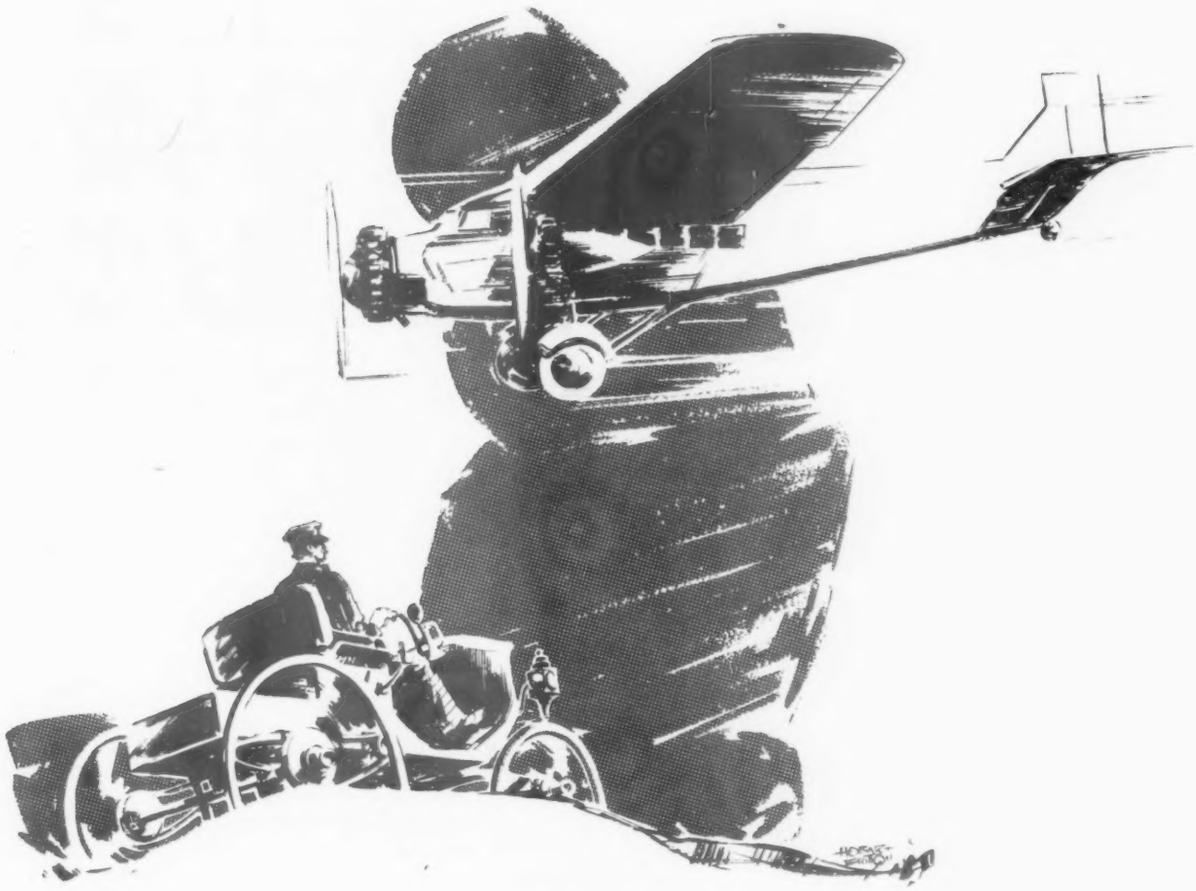
The suggested program, modeled closely upon the original Pecos County proration plan, calls for division of the field into 20-acre units, and for dividing the total pipe line outlet equitably among those units, determining the allowable production on the units, 50 per cent. by the number of units in production and 50 per cent. by the average potential of wells on those units.

Early this week it was reported that the only operator who had not given approval to the proposed plan was L. C. Turman, independent operator of Fort Worth, who has 17 acres in the field, and who hesitated to restrict drilling or production, having entered a contract November 13 to deliver 500,000 barrels of crude at the rate of 2000 barrels daily to Grayburg Oil Company, which is extending a line into the field to permit direct shipments to its San Antonio refinery. It is reported, however, that the contract is somewhat flexible, and that it would not necessarily preclude Turman's participation in the proposed curtailment agreement.

Inclement weather and bad roads greatly retarded field work in the Darst-Manford area, Luling district, during the past week.

Interest is focused on the United North & South Development Company's Dix 1 and the Mundine Investment Company's Echols & Brady 1, as these two tests have cemented pipe on top of Edwards lime, and are ready to drill in.

Magnolia Petroleum Company's Rand Miller 1, which was reported last week as having furnished the field with its fifth producer, swabbed 312 barrels during the 24-hour test early this week at 2600 to 2621 feet, and will be placed on the pump. Magnolia Petroleum Company has started two offsets to this new completion.



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DALLAS, TEXAS

Louisiana--Arkansas Field Notes

Test Rich Oil Sand in Louisiana's Deepest Test

SHREVEPORT. — North Louisiana's deepest test, Magnolia Petroleum Company's McCook and Hibbler 1, Section 22-21-10, Webster Parish, Cotton Valley district, whose total depth is 6965 feet, is the cynosure of all eyes of oil men in the Shreveport district. On its outcome depends to a considerable extent the immediate future of deep sand exploration in this area. If it is a producer of commercial proportions of either oil or gas there is no doubt that the lowed Trinity formations will be the goal of many subsequent tests.

The well will be bailed this week, according to present plans. Five and three-quarter-inch casing was set at 6947 feet at the top of 11 feet of some of the richest oil sand ever cored from a hole in this territory.

A. H. Tarver's and the Shreveport-El Dorado Pipe Line Company's Long-Bell Lumber Company 1, Section 29-8-13, five miles north of the three chalk rock producers in the Zwolle district of Sabine Parish in Section 14-7-14, has almost faded from the picture. The Long-Bell's liner was bailed at 3629 feet and only a little oil and gas showed. Bailing is still under way. (Production in Zwolle is from 2130 to 2350 feet).

The Dixie district of Caddo Parish received a jolt during the week when three tests north and northeast of production were abandoned as failures, all going considerably below the Woodbine pay horizon before being abandoned. However, due to the lenticularity of the horizon in Dixie the failures are not so staggering as would be the case in many other fields. Optimists point out that some of the best wells in that district have been offset by very small producers, salt water holes, or dry holes.

Dixie Field Active

Dixie production was extending an eighth of a mile north during the week when The Texas Company's Hunter 6, in the southwest corner of the northwest quarter of southwest quarter of Section 9-19-14, was put on the beam at 2436 feet and is pumping 40 barrels of oil daily.

In SE NW Section 10-19-14, a half a mile north of S. T. Onyett's Dixon 1, SW SW Section 10-19-14, Adams and Despot have abandoned Dickson 1 as a salt water hole at total depth of 2622 feet. Eylers Oil & Gas Company abandoned Sentell 1, SW NE Section 9-19-14 as a dry hole at 2501 feet, and Fred W. Ryan, more than a mile north and east of Onyett's test quit Dickson Heirs 1, SE NW Section 3-19-14, as a dry hole at 2500 feet.

Old River Oil Corporation which is down to 2375 feet in Byrd 1, Section 15-19-14 east of production and a half mile east of a failure drilled by the same company in Sibley 1 near the center of the same section, is fishing for slip. A mile west of Dixie production Lide and associates are shut down at 2475 feet in Levee Board 1, NE NE Section 24-19-15, after testing dry at 2418 feet.

A possible six-mile extension southeast of the Nacatosh horizon in the shallow Hosston field of Caddo Parish, looms in the Bidenharn 1, Section 23-21-14, Bossier Parish, which is standing full of oil and is being standardized at 998 feet. The oil tests 20 gravity, practically the same as obtained at 1000 to 1100 feet in Hosston.

Standard Oil Company of Louisiana has run a gathering line to Muslow Oil Company's Kilgore 1, Section 31-23-11, southeast of the old Carterville gas field of Bossier Parish, and southwest of the Sarepta gas field of Webster Parish. Kilgore 1 was completed several weeks ago flowing 218 barrels of light oil from 3164 feet, flowing through 2½-inch tubing. The well is still maintaining a daily flow of 160 barrels. Eight wells are now drilling in the vicinity of the producer, including several old holes being deepened.

Weather Hinders Work

Bad weather, including a two-inch snow during the last week, helped to slow up activity resulting in one of the leanest lists of completions in several months. Only two producers in proven areas were completed in North Louisiana, both being in the old Pine Island field. Perforation of the Nacatosh horizon in Smackover continues to add a few small producers each week, most of the wells having 100 per cent. more salt water than oil.

Lenz and associates drilling Person 1, Section 13-15-26, Miller County, Arkansas, a wildcat test, abandoned it as dry at total depth of 3362 feet. Late reports indicated that two other Arkansas wildcats are also being abandoned. Talbot and Markle are tearing down the rig to abandoned Copeland 1, Section 31-19-19, Columbia County, total depth of 4509 feet, one of the deepest holes ever drilled in South Arkansas. This test topped the Anhydrites at 4167 feet. Arkansas Drilling Company is also preparing to abandon Norris 1, Section 17-18-12, Union County, in red beds at total depth of 3400 feet.

Robeline Oil & Gas Company has junked Cassady 1, Section 7-8-9w, Natchitoches Parish, Louisiana, at 3230 feet, but is rigging up for another test, Winn 1, in the same section.

Sabine Parish received two new wildcat tests. G. M. Le Grande has a derrick up for Haley 1, Section 6-7-12, Many district, and D. H. Reddick, Trustee, is rigging up Scretchfield 1, Section 18-9-12, Belmont district. R. L. Gay, Trustee, is drilling chalk rock at 2500 feet in Bowman-Hicks 5, Section 14-7-14, in the Zwolle field. He is waiting for eight and a quarter-inch casing to harden for a test of Bowman-Hicks A-1, Section 34-8-12, 12 miles east of production, where a chalk rock formation showing oil was cored from 2405 to 2413 feet. This is a formation corresponding to the pay in the Zwolle producing area. Gay is drilling at 3545 feet in Long-Bell Lumber Company 1, Section 26-8-14, three miles west of Tarver and associates' test on the same lease, and is drilling broken lime at 3780 feet in Sabine Lumber Company 2, Section 23-7-14, a quarter of a mile southwest of his chalk rock producers.

New Locations

There were 10 new locations during the week in North Louisiana. Two new locations were made in East Texas, both in Panola County.

Three of the four new locations in Arkansas were for wildcat tests. Arkansas-Louisiana Pipe Line Company is rigging up for Patterson 1, Section 14-10-24, Johnson County. Cosden Oil Company is drilling at 320 feet in Donitahn Lumber Company 1, SW SE Section 19-9-10, Cleburne County. O. W. Estes is building derrick for Telford 1, NW SW Section 35-17-15, Union County.

L. E. Parker is drilling at 2063 feet in Franks 1, Section 25-19-22, Columbia County. In Garland County, H. H. Given is drilling hard sand at 3377 feet in Garrett 1, Section 1-13-19w, being drilled with cable tools. Transcontinental Oil Company, after testing dry through drill stem at 2167 feet is drilling ahead at 2237 feet in Novack 1, Section 36-2-6, Prairie County.

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THE well informed oil man makes money. He depends on scouts to bring him information on what's going on in different fields.

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Because he goes around many fields, tank farms, refineries, with his eyes open he is in a position to give you ideas that have dollars-and-cents value.

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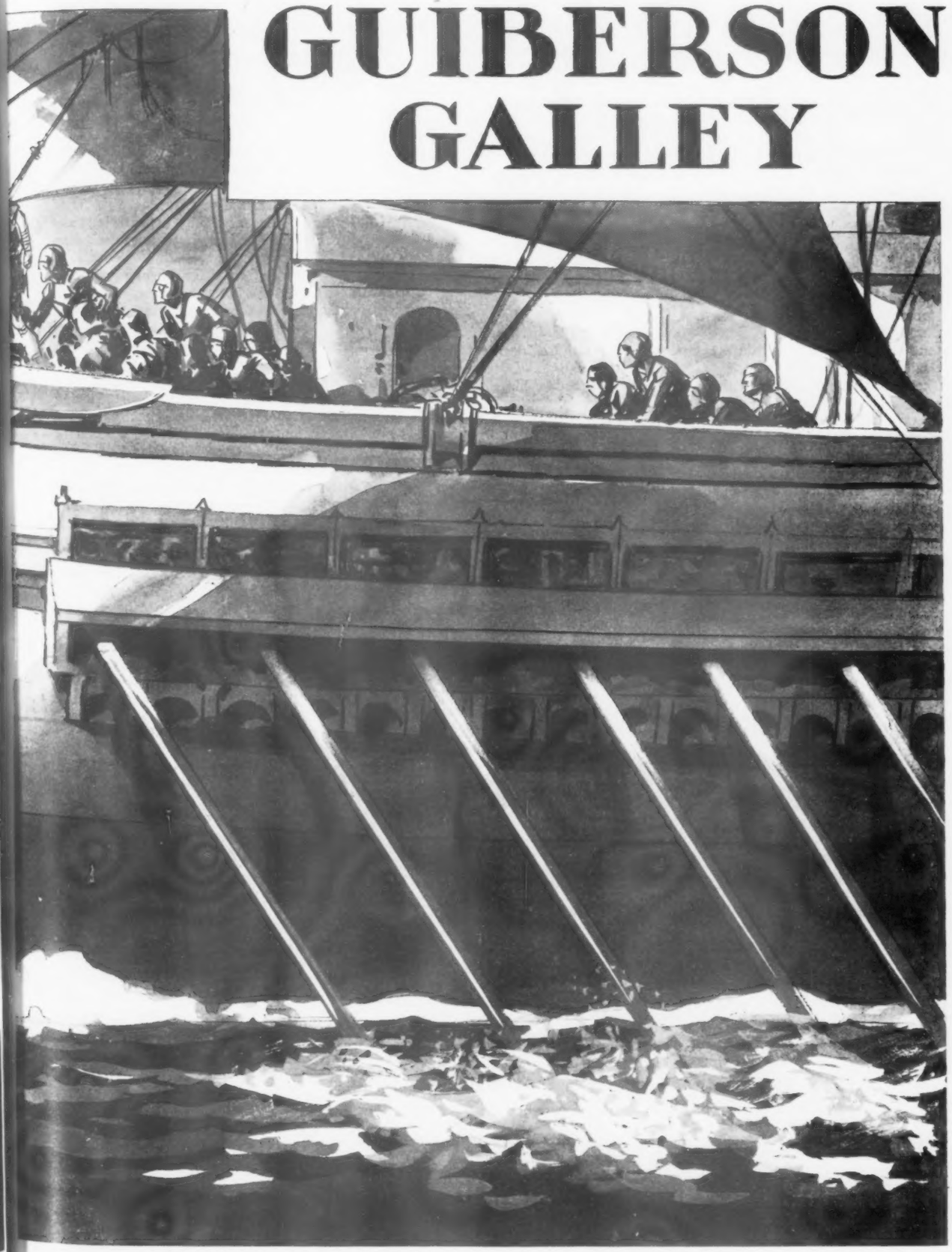
Norvell-Wilder *Supply Company*

BEAUMONT HOUSTON SHREVEPORT FORT WORTH

The NORTH

STAR *to the* GUIBERSON GALLEY



News From California Fields

BRAD MILLS, *Staff Representative, Los Angeles, California*

Large Wells Completed in Pacific Ocean Structure

Santa Barbara, California. — Development of tideland permits in the Elwood field has assumed an important position in Santa Barbara County and is expected to lead to additional drilling of this sort along the Pacific Coast. The feasibility of drilling structures a considerable distance out in the ocean has been demonstrated off the mainland at Elwood and many problems have been overcome during the past six months. More than a dozen piers have been built out into the ocean, the lengths ranging from 200 feet to 1100 feet.

Completion of a 3500-barrel well on the Caroline Spalding permit has extended the field a considerable distance into the ocean and indicates that the structure points oceanward, inclining to the west away from the shore line. If this proves to be true, new methods of pier construction probably will be perfected to drill in still deeper water. The Spalding well was completed at 3701 feet and produced clean, 35 gravity oil. About 375 feet of sand was included in the test.

Bankline Oil Company broke into the producing column, completing Permit 89-1 with an initial production of 3300 barrels from 3600 feet. The well is flowing through two miles of six-inch line to storage tanks. This arrangement is necessary as the tideland permits extend only to mean high tide line and offsetting companies control shore leases.

Geologists Place Little Importance on Inglewood

Los Angeles.—The Inglewood townlot extension of the Potrero field will never become a factor in Los Angeles basin production, according to the opinions of several gelogists and engineers who have studied the structure and action of the oil sand found in the wells completed and in tests now under way which have not yielded sand enough to warrant a production test. Both the thickness and quality of the producing formation fall considerably short of major requirements, but an unexpected turn in the trend of production or a deeper producing zone may change the situation. Drilling is concentrated on a small block, due to offsetting clauses in most leases. Placing on production several wells within a few weeks would certainly dissipate the gas pressure. The high quality of the oil makes drilling attractive from this standpoint and the possibility of some favorable development adds to the desire to explore the district.

Several drilling wells have reached the "feeling around" stage, while several wells have failed to find the sand. Water problems have made their appearance and it seems that this part of the field will share this trouble with the discovery end, a mile to the southeast.

Associated Oil Company had poor luck with both Prairie 1 and 2, offsets to the townlot activity. The former stopped drilling in the gray sand at 4200 feet, while the latter is standing recemented at 3844 feet, the 13⅜-inch casing having been landed at 3820 feet.

Several other wells are drilling at about the level which was expected to show oil sand and some have found streaks of oil sand with shale at various depths.

George F. Getty's No. 1, completed a few months ago with an initial production of 1200 barrels, has declined to 85 barrels, while Yorke and Lockhart's Blinn 1, originally a good well, is now yielding about 300 barrels.

Rincon Operators to Drill Submerged Structure

Ventura, California.—Drilling of tideland permits offsetting land leases in the Rincon field has been launched, with the General Petroleum Corporation about ready to start a well on its 1600-foot pier in the Pacific Ocean. Unsatisfactory production obtained in the field has led to a theory that the best part of the structure lies under water. State permits were granted to drill more than two years ago, but certain state departments tested the constitutionality of the law, only to have the permits held valid. This opened the way for tideland drilling and General Petroleum Corporation was first to complete a pier offsetting leases which have not proven producers. The well is located near the bend of the beach line, however, and it is possible that the axis of the structure leads toward the new pier location.

40 Tests Are Drilling In Maricopa Flats Area

Taft, California.—Centering on parts of four sections, activity in the Maricopa Flats district has increased until there are now nearly 40 active projects under way. An occasional large completion has been the necessary stimulant and both major and smaller companies that have been inactive in the district for years are drilling one or more wells each. Drilling is centering on Section 8-11-23, but Sections 9, 16 and 17 of the same township and range are also showing an increase in active operations. This is the first major extension opened up in the Midway-Sunset district for several years and it promises to increase the potential production of the area considerably within a few months.

Santa Barbara County Wildcats Abandoned

Santa Barbara, California. — Santa Barbara County wildcats showed little change during the week, with the exception of two abandonments and the beginning of two or three additional wells. Continental Oil Company has abandoned Bailard 1, a test on the Carpenteria structure which failed to show as much promise as the original well, final depth having been 4535 feet. The heavy gas pressure which made the company's first well an outstanding wildcat for several weeks was conspicuously absent in Bailard 1.

Failure to find the gas sand indicates a more favorable condition in the ocean, since the original well was located near the beach and the second test farther away from the coastline. Geology of the area near the surface may be studied by observing the outcropping layers on the palisades from a point near the water. Many of the layers are broken and stand almost on edge, but this unconformity may not hold at greater depths.

The abandonment a week ago of Western Gulf Oil Company's Hollister 2 leaves only Standard Oil Company's Gerber 1 drilling near Point Concepcion. The formation at 2635 feet is running to gray sand, with only occasional showings. It is a difficult matter for operators to give up the Goleta and Elwood districts, the small quantity of light oil produced two years ago and the remarkable tenacity of the Elwood field proper having increased the desire to find additional production.

9000-Foot Well Likely at Santa Fe Springs

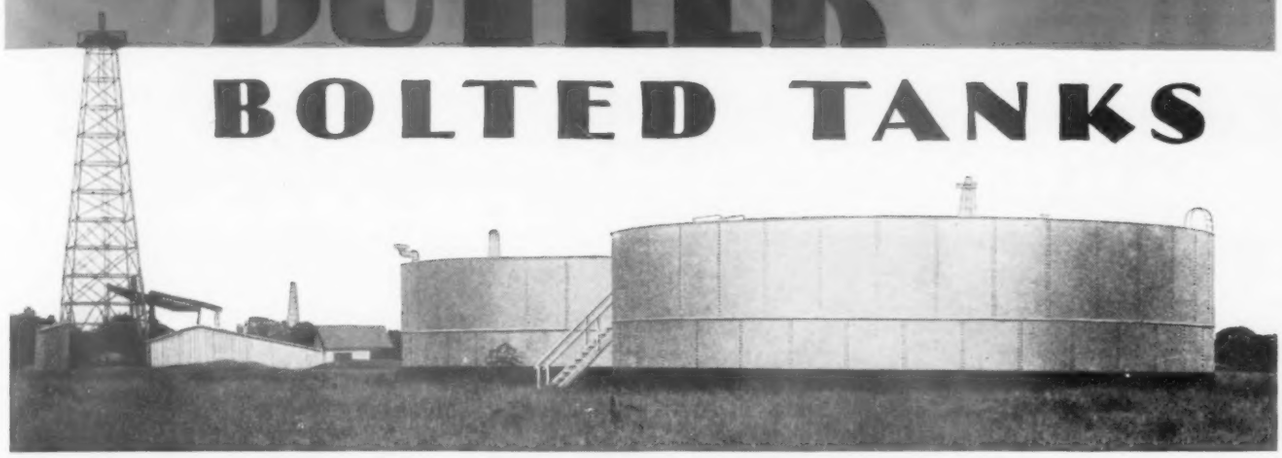
Los Angeles.—Santa Fe Springs seems assured of a record producer in Oscar Howard's No. 7, which is now drilling in streaks of oil sand and shale at about 8900 feet. This remarkable well has cut oil sand and shale at irregular intervals below 8200 feet, after a distinct break had been found below the Hathaway or Clarke zone. Still more than 350 feet short of Shell Oil Company's record in Nesa 11 at Long Beach, the hole is in good condition and may be continued to at least 9000 feet. When drilling is stopped, a string of 4½-inch casing will be cemented in one of the two good shale bodies already found.

Drilling wells total 200, with about 30 due for completion during the next month. Many of these wells will be completed on top of the structure and production probably will take another upward turn.

The lower Clarke or Hathaway zone is the objective of nearly all drilling wells,

BUTLER

BOLTED TANKS



TWIN TENS

LEASE storage is here today—somewhere else tomorrow. The substantial design and flawless construction of Butler Bolted Tanks make them extraordinarily well adapted to this transient service.

Precision forming and punching best demonstrate their worth in the re-erection of tanks after having been cut down. Placed in the tank sections by a single stroke of a huge machine as they are in Butler Bolted Tanks, bolt holes are uniform as to size and spacing. Interchangeable sections further facilitate re-erection.

Sizes range up to and including 10,000 barrels capacity—every one as good looking as the twin tens pictured. Butler welded field tanks are made to any specifications.

Check over the list of Butler dealers below. All are adequately stocked and capably manned to render —day or night—the dependable field service on which you can safely rely. There is one or more strategically located to serve you.

Butler A. P. I. specification Bolted Steel Tanks carry the official monogram reproduced here.

This and the Butler monogram are a double pledge of the utmost value in Bolted Steel Tanks.

BUTLER MANUFACTURING CO.

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These reliable dealers are ready to render speedy Butler Bolted Tank Service:

Drane-Humphrey Co., at San Angelo, Ft. Worth, Big Spring, Pyote, Best and McCamey, Texas; and Hobbs, N. M.

Keyes-Butler Tank Co., of Casper and Cody, Wyoming.

Drane Tank Co., at Tulsa, Holdenville, Seminole, Hallett and Shawnee, Oklahoma; El Dorado, Madison, Wichita and Valley Center, Kansas.

Muskegon Boiler Works, Muskegon, Michigan.

Gulf Coast Tank Company, 1612 Moffett Street, Houston, Luling and Refugio, Texas, V. P. Hughes, Prop.

Thomas Moran at Oil City, Shreveport and Georgetown, Louisiana.

M. A. Trimmer, at Blackwell and Lovell, Oklahoma.

[illegible] F. Hey, Dupo, Ill.

with the O'Connell to be tested in perhaps a dozen wells.

More than half of the shallow zone wells have been shut down, reducing the total output of all upper zones to about half of the potential figure. Shutting down of these wells was decided upon because there is little likelihood that they will be injured by suspension.

Several good wells have been completed in the Clarke zone, the average initial having been better than during recent weeks. If this sand was developed in an unrestrained manner, the field could easily establish a new peak.

1300-Barrel Well Brought In At Ventura Avenue

Ventura, California. — Associated Oil Company completed Lloyd 26 with an initial production of 1300 barrels from 6900 feet, adding better than an average producer to the Ventura field. The new well is flowing from about 950 feet of oil sand and shale, the 6⅝-inch shutoff string having been cemented at 5950 feet. A 4¼-inch oil string was landed on bottom. Several of the 35 drilling wells are nearing completion, with new locations roughly offsetting the completions from week to week.

Kern County Deep Test

Bakersfield, California. — Standard Oil Company has established a new record for Kern County, having passed 8125 feet in No. 27, a deep test in the edge of the Elk Hills field. Cores show a hard sandy shale, with no showings.

Santa Barbara Test

Santa Barbara, California. — Lincoln Drilling Company is rigging up to test Medcliff 1, a test in the Santa Barbara field which has been suspended for several months. After drilling to 2435 feet, the well made a very poor showing and was shut down, pending developments in offset wells. Some time ago it was discovered that the well was flowing some heavy oil, the company reaching a decision to try a pumping test. All drilling wells have been shut down.

Venice Wildcat

Los Angeles.—Ohio Oil Company has run a string of 6⅝-inch casing to 5860 feet in Gun Club 1, a wildcat located near the city of Venice, and will test showings found between this depth and 6200 feet, the present bottom. Oil sand and shale were found around 3800 feet, but if either the upper or lower showings failed to make a commercial well, the hole probably will be abandoned.

Brea Canyon Wildcat

Los Angeles.—Western Gulf Oil Company has made a location for a wildcat well on Section 28-2-9, about three miles northeast of the Brea-Olinda field and more than five miles south of wells drilled several years ago. The location is on the well known Diamond Bar ranch, the company having leased about 1800 acres in the district.

Western Gulf Continues Fruitvale Development

Bakersfield, California.—Western Gulf Oil Company, discoverer of the Fruitvale field, has announced another location on Section 22-28-27. The company has quietly developed a large production in this new area during the past two years but has rigidly adhered to the curtailment program outlined to keep heavy oil under control, having produced only enough crude for its own needs. Discovery of the Fruitvale field came as a distinct surprise and severely jolted the former theory that the San Joaquin valley fill near Bakersfield had placed production out of reach or had made the district useless as a trap for oil at shallow depths.

Corporation Applies For Natural Gas Franchise

Casper, Wyoming.—L. B. Denning of the Lone Star Gas Company of Dallas, Texas, and John McFadyen of the Ohio Oil Company at Casper, have applied for natural gas franchise at Provo, Utah, and Pocatello, Idaho. Both are identified with the Western Public Service Corporation which has completed a line from northwestern Colorado and southern Wyoming to Salt Lake City and Ogden, Utah. The Provo line will run from Salt Lake to Provo, and will be 45 miles long. Pipe for this line is to be 12¾-inch, ordered from the National Supply Company. The line from Ogden to Pacatello will be about 200 miles long and will consist of 10- and 12-inch pipe.

Winter Halts Work

Rock Springs, Wyoming.—The Mountain Fuel Supply Company, operating in the Baxter Basin and Hiawatha dome districts in southwestern Wyoming and northwestern Colorado, has shut down all of its drilling wells on the Colorado side of the line, and some of those on the Wyming side. Operations will not be resumed until spring since the severity of the winter will doubtless prevent operations.

Six-Shooter Anticline

Billings, Montana. — The Carter Oil Company has abandoned its test on the Six Shooter anticline at 4360 feet. It has announced that it plans to drill another well on the north side of the structure in the spring, believing that it had encountered a faulted condition in the recent attempt. Location is on Section 17-3n-19e.

Government Contest Title Held by State

Cheyenne, Wyoming.—The Federal Government has granted a prospector's permit to prospect for oil and gas on Section 36-58-100 in the Elk Basin field, northern Wyoming, and by that act has indicated that it will probably make a fight for the title to that section. The Ohio Oil Company has held a lease on this land from the State of Wyoming for a number of years, the state land board having claimed title under the federal law giving Sections 16 and 36 in each township to each state except such land which at the time of the survey was known to be mineral land. The federal government has previously not made any claim to the land in question.

Construction Progressing On Canadian Border Line

Great Falls, Montana.—Another of the many gas lines being laid in this state at present is the one which is to be laid to the towns of Coutts and Sweetgrass from the new Vanalta well in the Red Coulee field on the Montana-Alberta border. The well is about six miles from the towns and it is expected that it will be speedily completed.

Preliminary Survey For Montana Line Made

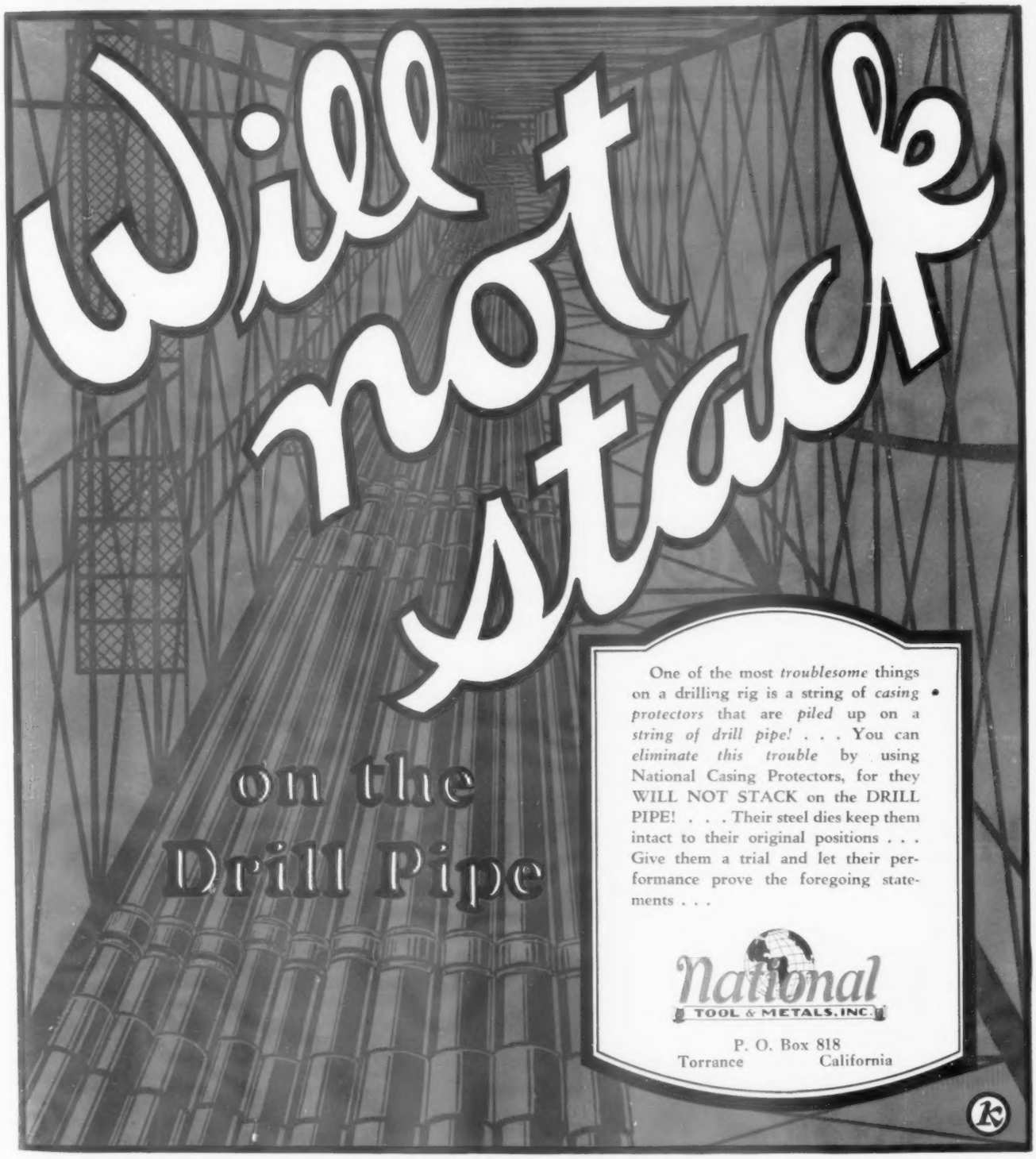
Williston, North Dakota.—The Montana-Dakota Power Company has started the preliminary survey for its gas installation in this town. A designing engineer will be here in the spring to construct the pipe line from the Cabin Creek field in southeastern Montana to Williston, 140 miles. The company will complete two gas projects from Cabin Creek next year; one to Williston, and the other to Bismark. In addition to these projects the company has applied to the State Railway Commission for authority to extend the Williston line to Minot, and it is understood that a further extension of the Bismark line is to be contemplated.

Growth of Houston Natural Gas Company

Houston.—More than 10,000 domestic and industrial consumers of natural gas were added to the lines of the Houston Natural Gas Company and associated companies during the five-month period ending November 9. This record of expansion is shown by a report just released by W. B. Trammell, general manager. These companies are now rendering service to more than 17,500 accounts.

For this period the Houston Natural Gas Company set a record of 5236 meters. This company distributes throughout Houston and suburban territory. Gulf Cities Natural Gas Company accounted for a net gain of 848 meters in Goose Creek, Baytown, Pelly, Freeport, Texas City, La Porte, Alta Loma, LaMarque, Algoa and Bayshore additions. The record of Texas Natural Gas Utilities was an increase of 1595 meters. It operates in Victoria, Wharton, Beeville, Newgulf, El Campo, Goliad, Edna, Richmond, Alvin, Bay City, Boling, Beasley, Hungerford, Missouri City, Stafford, Ganado, Inez, Mackay, Iago, Telferner, Pearland, Hobby, Woodsboro, Matagorda and Gulf. The Tex-Mex Natural Gas Company had a three-month gain of 378 meters. It operates distribution systems at Alice, Agua Dulce, Kingsville and San Diego.

National
CASING PROTECTORS



One of the most *troublesome* things on a drilling rig is a string of *casing protectors* that are *piled* up on a *string of drill pipe!* . . . You can *eliminate this trouble* by using National Casing Protectors, for they WILL NOT STACK on the DRILL PIPE! . . . Their steel dies keep them intact to their original positions . . . Give them a trial and let their performance prove the foregoing statements . . .

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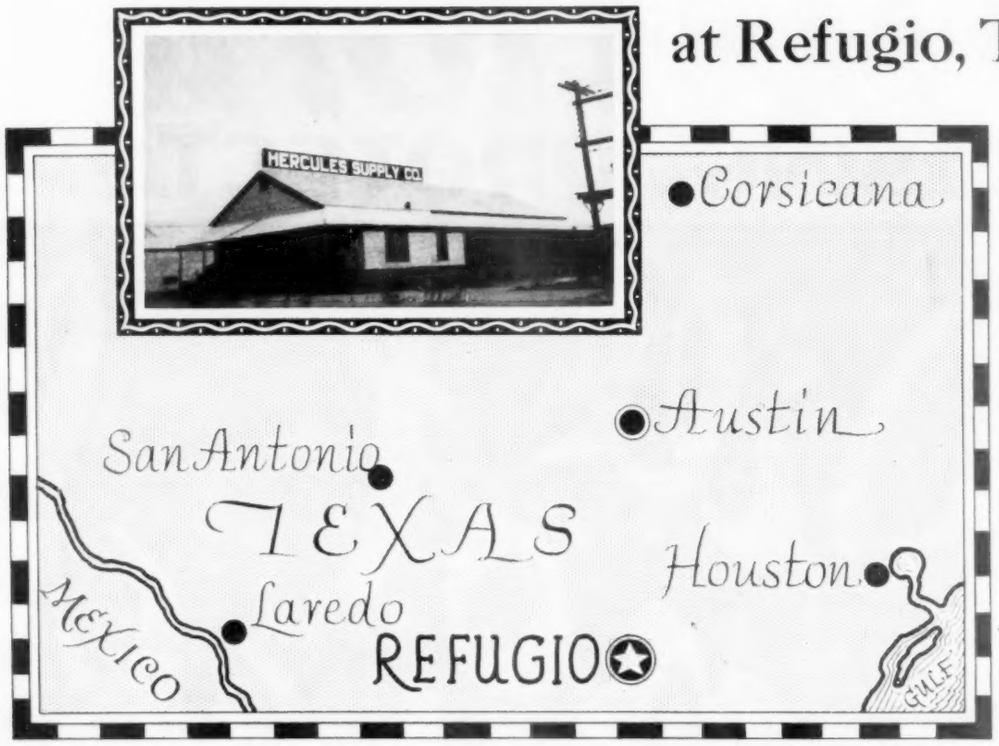
Announcing Two New

at Refugio, Tex.



For operators in the Refugio field the Hercules Supply Company has a new store in the town of Refugio.

Refugio is in the Southeastern part of Texas, almost on a direct line between Houston and Laredo. It is near the coast, at Aransas Pass, 130 miles Southeast of San Antonio.

Operators in this vicinity are invited to use the full facilities of this store, the only one in the entire territory.

HERCULES SUPPLY COMPANY

J. T. McCARTHY, JR.
EVERYTHING FOR OIL WELLS

The location of Refugio, much more isolated from the standpoint of supplies than appears on the map, makes this store of greater assistance to the industry than a far distant buyer would appreciate. Your full requirements can be cared for. Service is given as the oil man wants it.

American Wire Lines — Lucey Rotary Products — Etna Tubular Products — Standard Seamless Tubular Goods — Guiberson Tubing Catchers and Swabs — Hughes Tool Co. Products — Baker Oil Tools Co. Products — Bettis Protectors — Walworth and Crane Valves — Quaker City Belting — Worthington Pumps — Hundreds of other items.

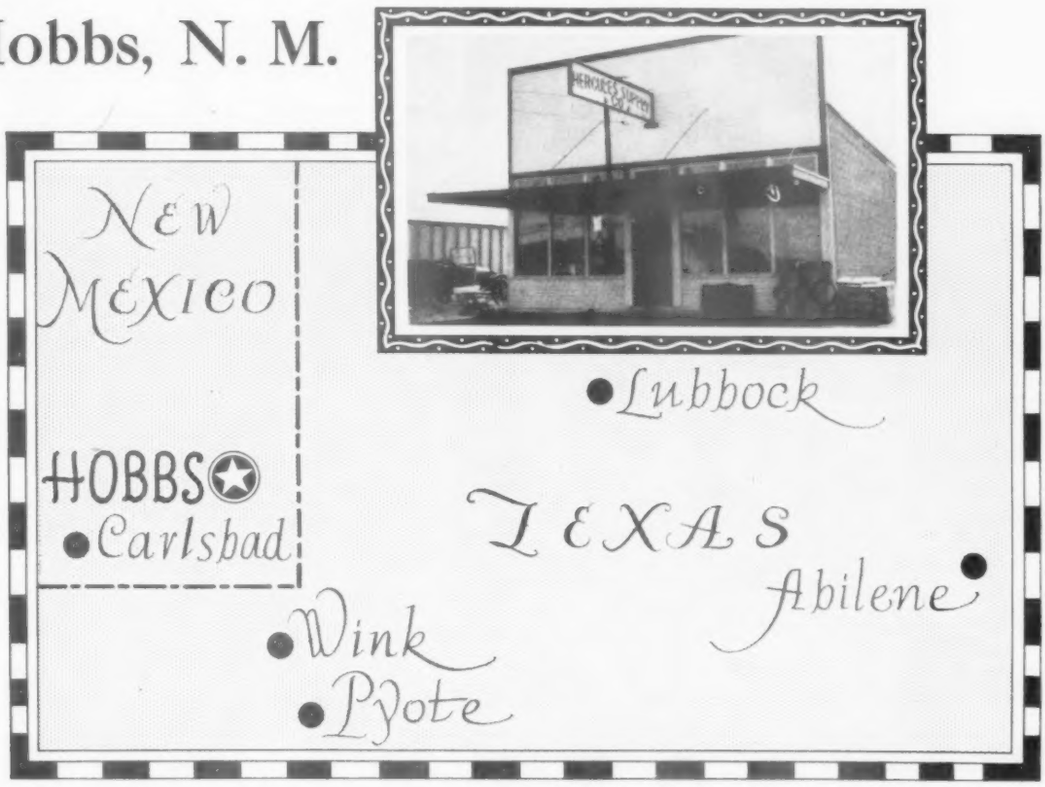
Stores: Pampa, Texas, Wink (Pyote)
Isom (Borger)

General Offices
FORT WORTH, TEXAS

Vernon (Wilbarger) Refugio, Texas
Hobbs, N. M.

HERCULES Stores

at Hobbs, N. M.



At Hobbs, in Lea County, New Mexico, the Hercules Supply has established a fully stocked oil field supply store to serve operators in this inaccessible territory.

Hobbs is in the extreme Southeastern part of New Mexico about seventy miles north of Wink and Pyote and about seventy miles east of Carlsbad.

Operators in this territory will find the Hercules store a decided convenience in the quick delivery of tools and equipment.

HERCULES SUPPLY COMPANY

J. T. McCARTHY, JR.
EVERYTHING FOR OIL WELLS

Unfortunately, the map does not indicate the real inaccessibility of the field and the unusually poor condition of roads leading into the territory. This makes the factor of time of great importance in ordering from the Hercules store as from one to three days can be saved in deliveries.

American Wire Lines — Lucey Rotary Products — Etna Tubular Products — Standard Seamless Tubular Goods — Guiberson Tubing Catchers and Swabs — Hughes Tool Co. Products — Bettis Protectors — Walworth and Crane Valves — Quaker City Belting — Worthington Pumps — Hundreds of other items.

Stores: Pampa, Texas, Wink (Pyote) Isom (Borger) Vernon (Wilbarger) Refugio, Texas Hobbs, N. M.

General Offices
FORT WORTH, TEXAS

COMPLETIONS FOR PAST WEEK IN U.S. FIELDS

SUMMARIZED REVIEW OF FIELD RESULTS

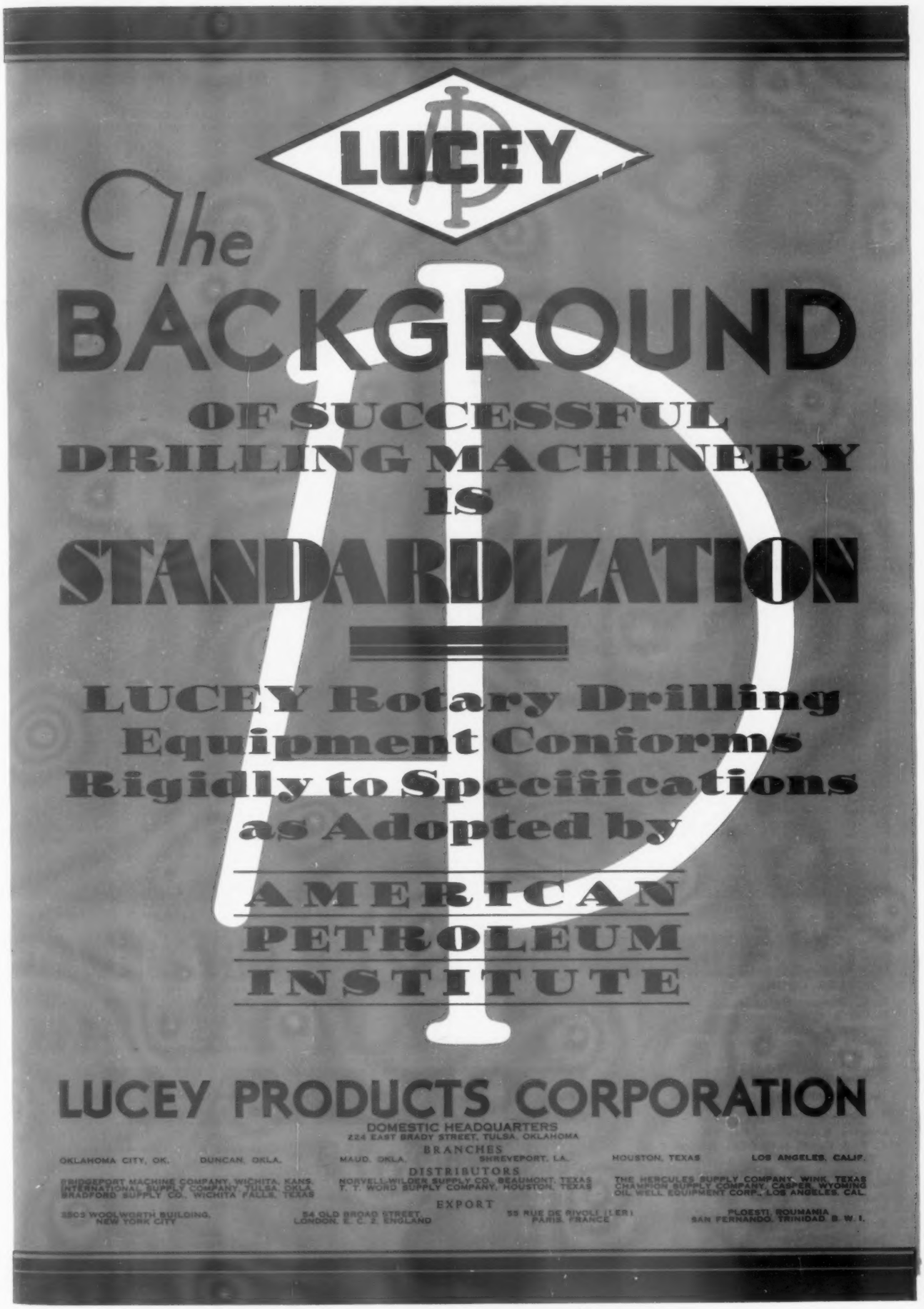
State—	Completions This week	Completions Last week	Producers This week	Producers Last week	Gas Wells This week	Gas Wells Last week	Failures This week	Failures Last week	Initial Prod. This week	Initial Prod. Last week
Arkansas	5	5	2	1	2	1	1	3	37	35
California	16	24	14	22	..	..	2	2	15,985	26,375
Illinois	11	7	8	7	..	..	3	..	97	189
Indiana	14	3	2	2	4	..	8	1	17	28
Kansas	31	8	11	2	..	..	20	6	2,435	1,218
Kentucky	52	8	37	4	4	2	11	2	1,411	875
Louisiana	12	36	5	11	1	12	6	13	375	4,472
Michigan	6	5	4	..	1	..	1	5	365	...
Mississippi	1	..	..	..	..	..	1	..	...	...
New Mexico	..	1	..	1	..	..	..	..	...	150
New York	15	26	15	26	..	..	..	..	45	82
Ohio	47	49	18	16	18	22	11	11	941	1,134
Oklahoma	66	69	27	36	19	12	20	21	12,286	9,237
Pennsylvania	104	104	100	90	2	12	2	2	353	326
Tennessee	..	1	..	..	..	..	1	..	...	...
Texas	150	140	90	72	11	11	49	57	25,637	30,243
West Virginia	24	16	5	6	16	9	3	1	38	51
Total	554	478	338	296	78	81	138	125	60,022	74,415
Increase this week	76	..	42	..	..	..	13	..	...	...
Decrease this week	..	..	..	..	3	..	..	..	14,393	...

OKLAHOMA

Company, Well and Location	Initial Production Bbls.	Depth
CARTER COUNTY—		
F. W. Merrick et al, Denny 3, nw, sw, 20-1s-3w	*	3850
COTTON COUNTY—		
Sahsta, Slogan 7, se, nw ne ne 2-2s-10w	75	2198
Wirt Franklin, Chambers 4, csl sw se 35-1s-10w	125	2192
Baldwin and Sultan, Rhone 5, ne, sw se se 35-1s-10w	60	2190
CREEK COUNTY—		
Magnolia, Talmase 2, cwl ne nw 3-16-7e	*	2953
Gem Oil Co., Allen 1, se ne se, 7-17-8e	*	3365
McCullough, Davis 1, nw, 21-19-9e	*	2848
Sooner Oil & Gas, Bruner 5, cwl se sw, 12-17-11e	¶½	1205
Link Oil Co., Freeman 4, ne, sw ne 33-18-7e	10	1464
Magnolia, Vance 1, ne, nw ne, 7-18-7e	30	2580
Pioneer Pet. Co., Morgan 5, nw sw ne 15-19-9e	¶2½	2238
Sheridan, Peters 2, c se se 33-16-11e	60	2049
GRADY COUNTY—		
Oklahoma Public Service Co., Dryden 3, ne se nw, 2-4n-8w	¶10	2400
HUGHES COUNTY—		
Troutt Drlg. Co., Bird 1a, c nw nw, 5-8-11e	*	1604
JEFFERSON COUNTY—		
Bridwell Oil Co., Seay 1, nw, sw nw, 29-6s-5w	*	2209
Superior Oil Corp., Nesmith 1, sw se se 2-7s-7w	*	3914
LATIMER COUNTY—		
Limestone Oil & Gas Co., Murray 1, sw, 15-5n-18e	¶5	2550
LeFlore County Gas & Electric Co., Cole 4, sw ne nw, 11-6-22e	¶10	1840
Hardaway 6, sw nw sw 11-6-22e	¶4	1903
Hardaway 5, se ne ne 10-6-22e	¶10	1719
LOGAN COUNTY—		
Shell, McCully 11, nw sw se, 30-19-4w	1770	5975
McCully 12, sw nw se, 30-19-4w	1645	4981
McINTOSH COUNTY—		
Spring Valley, Carr 1, se, ne nw 16-10-13e	¶½	2400
MUSKOGEE COUNTY—		
M. S. Mussellem, Carver 2, csl ne ne 4-13-19e	*	1515
Bryan Pet. Co., Barnett 9, csl n½ ne, 8-15-15e	¶3½	1859
John Aggas, Hawkins 3, se nw se 28-16-15e	¶2	1508
OKFUSKEE COUNTY—		
B. Foster et al, Jackson 1, cnl nw sw 30-11-11e	*	3855
Sunray Oil Co., Johnson 1, nw, ne, 30-12-9e	*	4193
Mid Continent Pet. Corp., Grayson 1 ne, sw 31-11-11e	¶17	3093
Independent Oil & Gas, Wilson 1, sw, nw, 22-12-11e	220	3461
T. C. Inglehart, Barnett 1, ne se nw, 28-9-10e	¶15	2780
OKMULGEE COUNTY—		
J. A. Swindler, Bell 1, c nw se 20-15-13	20	1997
OSAGE COUNTY—		
Peters Petroleum Co., 1, nw, ne, 9-20-10e	*	2223
Oklahoma Power & Water Co., 126, nw ne nw 9-20-10e	¶1/8	445
Oklahoma Natural Gas Corp., 1741, cnl sw sw 5-21-12e	¶¼	1370
The Texas Co., 2, sw nw se 22-24-7e	200	2987
Peters Petroleum Co., et al, 1, se ne, 10-25-8e	120	2232
4, sw nw ne 27-27-11e	40	1040
8, ne, sw se 22-27-11e	70	1711
5, se sw sw 22-27-11e	85	1706
4a, se, sw sw 22-27-11e	11	771
PAYNE COUNTY—		
Consolidated Drlg Co., Freeman 1, sw, 4-18-6e	*	3698
PITTSBURG COUNTY—		
R. P. Lester, Carney 1, ne, nw, 15-7-18e	¶15	1969
PONTOTOC COUNTY—		
Homaokla, Ritchie 5, se, 1-4-7e	30	2039
POTTAWATOMIE COUNTY—		
Superior, Songster 2, sw nw nw 8-9-5e	700	4379
Gypsy, Green 5, nw ne se, 17-7-4e	4535	4000
Independent, et al, Davis 2, se sw ne 15-7-4e	207	4263
Indian Territory Illuminating, Shobe 4, sw, se, 35-8-4e	105	4282
T. B. Slick, Alexander 3, nw, se, 19-6-4e	*	3820
SEMINOLE COUNTY—		
Carter, Larney 5, nw, 24-7-6e	¶8	3287
Magnolia, Panes 1, se ne ne 18-9-6e	525	4408
Anderson 12, ne se ne 18-9-6e	210	4326
Anderson 8, ne sw ne 18-9-6e	258	4298
The Texas Co., Lewis 1, sw se nw 13-5-7e	595	4286
Magnolia, Spillman 1, se ne se, 12-6-7e	720	4131
Independent, Thloco 1, nw ne sw, 9-7-7e	*	4533
Continental, Johnson 3, nw se nw 18-9-7e	*	830
Amerada, Earles 1, nw, se, 32-9-6e	*	4413
STEPHENS COUNTY—		
Meridian Gas Co., Collins 1, c ne ne 12-1n-9w	*	3000
Magnolia, Andrea 1, ne se ne 8-2s-6w	¶39	3008
TULSA COUNTY—		
Bugham and Fleetwood, Davis 1, nw, sw se ne 24-17-14e	60	1804
WAGONER COUNTY—		
Western Drlg & Equip. Co., Ross 1, sw, se, 15-16-19e	*	850
Keener Oil & Gas, Rogers 1, se, sw se, 33-17-19e	*	786
J. R. Striker, Prince 3, ne, sw, 29-18-16e	*	804
H. H. Orr, Grayson 1, nw, se 34-19-18e	¶1	420
Knox and Shouse, Murphy 1, se, sw ne 18-17-16e	¶1	992

KANSAS

Company, Well and Location	Initial Production Bbls.	Depth
BUTLER COUNTY—		
E. W. Marland, Inc., Jones 1, sw ne sw 19-27-4e	*	3064
Richman and Reigle, Detrick 2, ne ne sw, 8-27-6e	15	2772
Alladin Petroleum Co., Klinger 1, sw ne, 24-27-3e	100	3025
COFFEE COUNTY—		
Shaffer and Howell, Leavering 1, csl se, 12-23-14e	*	1644
Young et al, Levering 1, se ne, 11-23-14e	*	1625
COWLEY COUNTY—		
Tress Oil Co., Brubaker 1, csl se nw, 12-34-6e	*	1161
Shawver et al, Baird 6, c ne ne, 17-34-3e	*	1963
Foster et al, Wright 1, se nw, 27-33-3e	*	3803
Slick, Pryor and Lockhart, Ratts 1, nw ne se, 25-30-5e	*	2974
Roth and Faurot, McEwen 1, sw se, 7-32-5e	*	3564
DICKINSON COUNTY—		
Millmack, Bichler 1, nw sw ne, 28-16-4e	*	3001
ELK COUNTY—		
Pure Oil Co., Chaffin 7, (owdd) nw sw se, 14-31-10e	15	1401
GREENWOOD COUNTY—		
Roth and Faurot, Martindale 1, se ne, 30-23-10e	20	2363
Independent, Beal 1, ne nw, 28-23-11e	10	1988
Houston-Oklahoma Oil Co., Hout 6, cel sw sw, 11-24-12e	70	1731
Walton, Barnes 1, sw nw nw, 7-24-13e	25	1654
Elk River Oil Co., Peterson 1, nw, 20-27-11e	*	2014
Mendenhall et al, Hollister 2, cnl ne sw, 9-25-13e	*	1760
Empire Oil & Refining Co., Laird 3, ne se sw, 21-23-11e	*	1995
T. K. Simmons et al, Steel 1, se ne, 32-22-12e	*	1940
Bisagne et al, Ralston 3, csl sw ne, 9-25-13e	*	1650
MARION COUNTY—		
American Oil & Refining Co., Uric 1, sw nw, 10-17-3e	*	3100
McPHERSON COUNTY—		
Helmerick and Payne, Kalssen 1, se ne ne, 14-21-1w	*	3562
Lario Oil & Gas Co., et al, Drener 1, se, sw, 10-20-1w	*	3455
RUSSELL COUNTY—		
The Texas Co., Jacobs 2, nw sw sw, 31-12-15w	75	2983
Midwest Exploration Co., Brungardt 18, sw nw nw, 31-12-15w	385	3095
SEDGWICK COUNTY—		
Bu Vi Bar Pet. Co., et al, Reed 6, se nw se, 1-26-1w	1595	3350
Shell Petroleum, Fischer 4, sw nw se, 15-26-2e	125	2920
Sinclair, et al, Harrison 1, nw ne ne, 3-26-2w	*	3955
Reynolds and Rogers, Updergraft 1, se sw se, 26-25-1w	*	2570
SUMNER COUNTY—		
Bu Vi Bar, et al, Wilson 1, ne nw, 27-34-2w	*	4504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224 EAST BRADY STREET, TULSA, OKLAHOMA
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OKLAHOMA CITY, OK. DUNCAN, OKLA. MAUD, OKLA. SHREVEPORT, LA. HOUSTON, TEXAS LOS ANGELES, CALIF.
DISTRIBUTORS
BRIDGEPORT MACHINE COMPANY, WICHITA, KANS.
INTERNATIONAL SUPPLY COMPANY, TULSA, OKLA.
BRADFORD SUPPLY CO., WICHITA FALLS, TEXAS
NORVELL-WILDER SUPPLY CO., BEAUMONT, TEXAS
T. T. WORD SUPPLY COMPANY, HOUSTON, TEXAS
THE HERCULES SUPPLY COMPANY, WINK, TEXAS
CHAMPION SUPPLY COMPANY, CASPER, WYOMING
OIL WELL EQUIPMENT CORP., LOS ANGELES, CAL.
EXPORT
2503 WOOLWORTH BUILDING, NEW YORK CITY
54 OLD BROAD STREET, LONDON, E. C. 2, ENGLAND
55 RUE DE RIVOLI (1ER) PARIS, FRANCE
PLOESTI, ROUMANIA
SAN FERNANDO, TRINIDAD, B. W. I.

EASTERN STATES

PENNSYLVANIA

Company, Well and Location	Initial Production Bbls.	Depth
BRADFORD FIELD—		
South Penn. Oil Co., Bingham 400 tr. 92	2	....
Bingham 450 tr. 102	2	....
Bingham 533 tr. 114	2	....
Bingham 453 tr. 1	2	....
Bingham 475 tr. 2	2	....
Bingham 494 tr. 3	3	....
Bingham 539 tr. 6	2	....
Bingham 570 tr. 7	3	....
Bingham 398 tr. 3	2	....
Bingham 400 tr. 95	2	....
Bingham 387 tr. 16	2	....
Melvin 259	2	....
Melvin 260	2	....
Melvin 261	2	....
Melvin 262	2	....
Lee-Hallock 111	2	....
Lee-Hallock 112	2	....
Fee 95	5	....
Fee 96	7	....
Fee 102	5	....
Smith 200	7	....
Smith 201	2	....
Jones 271	35	....
Cross 13	2	....
Whipple 150	2	....
Rew-Hodge 63	2	....
Harris Oil Co., Bingham 188 tr. 3..	4	....
Wright & Saph, Bingham 394 tr. 18	5	....
Hawkins Oil Corp. (9 oil wells)...	18	....
(6 wells)	pres	....
Niagara Oil Corp. (11 oil wells)...	22	....
(28 wells)	pres	....
Simpson & Co., Bingham 366 tr. 87	2	....
Bingham 366 tr. 88	3	....
Healey Pet. Corp Healey 24	7	....
Healey 25	2	....
Healey 26	2	....
Healey 27	2	....
Healey 28	2	....
W. N. Hunter, Hostetter Estate 6..	5	....
Walker Bros. Bingham 3	7	....
H. B. Oil Co., Bingham 2	12	....
Devore & Co., Devore 1	8	....
Bliss & Co., Bliss 6	22	....
T. H. Givens, Givens 9	12	....
Associated Producers Co., Bingham 212 tr. 22	10	....
Olean Pet. Co., Fee 12	3	....
Fee 13	pres	....
Phoenix Oil Co., Kennedy-Clark 24	3	....
Hazlewood Oil Co., Alleg. 3 tr. 78.	2	....
Alleg. 3 tr. 68	2	....
Alleg. 3 tr. 67	2	....
Alleg. 27 tr. 151	2	....
Alleg. 28 tr. 81	2	....
Bradford Producing Co., Weston (5 wells)	pres	....
McSweeney Co., Lawton 2	3	....
Lawton 3	pres	....
V. Schropperle, Duke 14	2	....
Duke 15	2	....
Duke 16	2	....
Duke 17	2	....
Penn. Pet. Co., Duke 1	12	....
A. J. Van Tine, Van Tine 5	7	....
Pure Penn. Oil Co. Kinley 6	7	....
Lilly Oliver, Franchot 7	4	....
BUTLER COUNTY—		
E. C. Dunlap, McIntosh 1	4	....
McGill & Co., Earhart 3	3	....
Gregory & Crawford, Anderson 22	2	....
Edward McKinney, McKinney 9	2	....
O. E. Behn, Wilson 1	2	....
Frazier & Co., Frederick 2	2	....
E. McCandless & Co., McCandless 1	*	....
H. E. Edeburn, Barkley 1	*	....
VENANGO COUNTY—		
Gregory & Crawford, Fee 346	2	....
C. F. & C. Oil & Gas Co., Helscel 4	2	....
Helscel 5	2	....
Witherup & Co., McElphatrick 28..	2	....
Hovis & Bowers, Ghost 17	2	....
Ziegler & Co., Ziegler 5	3	....
Plum O&G Co., Matthews 5	2	....
Friggle Bros., Friggle 62	2	....
J. F. Lester, Jones 28	2	....
Jas. McElhaney, Critchlow 8	2	....
H. H. Lebrum, Dtritz 7	2	....
L. M. Weaver, Miller 1	2	....
CLARION COUNTY—		
H. W. Hagerty, Haggerty 8	2	....
Lickingville Gas Co., Sigworth 1..	¶1	....
L. C. Collner, Collner 3	2	....
L. B. Shannon, Leeper & Co. 5	2	....
McDonald 2	2	....
GREENE COUNTY—		
Carnegie Natural Gas Co., Plantz 2	¶2	....

NEW YORK

Company, Well and Location	Initial Production Bbls.	Depth
ALLEGANY COUNTY—		
Barnes & Co., Barnes 1	2	....
Dusenbury & Co., Wheaton 6	2	....
Producers Gas Co., Fee 18	5	....
N. V. V. Franchot, Franchot 31	3	....
Manlyn Oil Co., Richmond 1	3	....
Seward 1	2	....
G. N. Hill, Hill 4	4	....
McDermett Hrs. McDermitt 6	4	....
W. L. Dunning & Co., Dunning 6..	4	....
Allegany Gas Co., Hall-Brown 1	2	....
M. Shear Estate, Baker 1	2	....
C. Birtcil & Co., Bay Babtist Assn. 1	2	....
Penn Pet. Co., Fee 6	4	....
J. K. Cochran & Co., McDermitt 20	3	....
LeSuer Oil Corp., LeSuer 51	3	....

WEST VIRGINIA

Company, Well and Location	Initial Production Bbls.	Depth
GILMER COUNTY—		
C. B. Lewis & Co., Amos 1	5	....
Weaver 2	15	....
Kelley 2	5	....
Philadelphia Nat. Gas Co., Batsen 7354	10	....
C. M. Bennett & Co., Lamb 1	¶1¼	....
CALHOUN COUNTY—		
W. H. Bickel & Co., Kenney 1	3	....
Hope Construction & Ref. Co., Hays 1116	¶2	....
Hope Nat. Gas Co., Hunt 7420	¶1½	....
Starcher & Co., Price 1	*	....
F. F. McIntoch & Co., Hays 1	¶1¼	....
LINCOLN COUNTY—		
L. R. Sweetland & Co., Sweetland 48	¶¼	....
Alleghany Gas Corp., Curry 4	¶¼	....
United Fuel Gas Co., Jaynes 4010..	¶½	....
BOONE COUNTY—		
Owens Bottle Machine Co., Biats 1.	¶1¼	....
Hope Nat. Gas Co., Allen 7429	¶1¼	....
Mountain State Fuel Co., Prince 1.	¶1½	....
ROANE COUNTY—		
Federal Oil Co., Providence Mining 45	¶1¼	....
United Fuel Gas Co., Griffith 4035..	¶1	....
RITCHIE COUNTY—		
Hope N. Gas Co., Flesher 1	*	....
Astron Oil Co., Starsburg Realty 13.	¶¼	....
TYLER COUNTY—		
Oakland Oil Co., Lancaster 1	¶½	....
MONONGALIA COUNTY—		
Eddy, Johnson & Co., Fox 1	¶1½	....
MARION COUNTY—		
Carnegie Natural Gas Co., Hayes 1.	¶1½	....
LEWIS COUNTY—		
Mud Lick O&G Co., Smith 1	*	....

SOUTHEASTERN OHIO

Company, Well and Location	Initial Production Bbls.	Depth
MONROE COUNTY—		
Indiana Run Oil & Gas Co., Holliday hrs. 2	¶¼	1905
Shay McMullen, Claws 1	1	1493
Shay & Co., Hiner 2	2	....
Abraham Goldstein, Burkhart 1	2	....
MORGAN COUNTY—		
Ohio Fuel Gas Co., Strode 2	¶1	1571
Ohio Fuel Gas Co., Thomas 1	¶½	1600
Penn O&G Co., Hopkins 9	¶½	735
Lord, Shaw & Co., Holliday 14	*	330
WASHINGTON COUNTY—		
Finkle & Co., Dyer Jr., 2	*	1090

CENTRAL OHIO

Company, Well and Location	Initial Production Bbls.	Depth
MUSKINGUM COUNTY—		
The Atha Co., Evans 2	*	807
H. C. Farmer, McConnaughey 1	¶¼	1265
Crawley & Co., Nelson McCoy Pottery Co., 1	170	3492
Midland Oil Co., Denney 3	175	....
Preston Oil Co., Varner 2	110	....
MEIGS COUNTY—		
Frick & Barnaby, Genheimer 8	*	812
Tyree & Co., Jividen 7	4	1731
Jividen 9	5	1809
Ohio Fuel Gas Co., Bradfield 1	¶¼	626
Hazlett & Co., Spencer 3	10	645
PERRY COUNTY—		
Leonard Oil & Gas Co., Larzellers 1	35	3439
Wehrle Co., Longstreth 1	180	....
Chartiers Oil Co., Hocking Products 214	¶¼	3642
Ohio Fuel Gas Co., Jones 2	¶¾	1951
ASHLAND COUNTY—		
Ohio Fuel Gas Co., Ewing 1	*	....
Shriner 1	¶1¼	....
Garn-Woodward Oil Co., Starcher 1	*	645
Fetter & Co., Herschler 1	*	2590
JEFFERSON COUNTY—		
Becker & Co., Becker Highlands 1.	3	....
Becker Highlands 3	50	....
Daugherty 2	*	....
LORAIN COUNTY—		
Wiser Oil Co., Palmer 3	¶2	2367
Ohio Fuel Gas Co., eKrruish 1	¶¼-24	....
E. S. Newcomb, Newcomb 1	¶¼	465
HOLMES COUNTY—		
East Ohio Gas Co., Bell 4	100	3548
Harford 3	¶1¼	3388
SUMMITT COUNTY—		
East Ohio Gas Co., Kepler 1	¶6	4018
Weaver 2	¶2½	4115
GUERNSEY COUNTY—		
North Salem Oil & Gas Co., Gray 4	60	3480
MEDINA COUNTY—		
East Ohio Gas Co., Zalensicis 10	5	....
LICKING COUNTY—		
H. C. Farmer, Warfel 2	¶¼	688
GALLIA COUNTY—		
Penn Ohio Gas Co., McCullough 1.	¶¼	1861
FAIRFIELD COUNTY—		
City Nat Gas Works, Mertz 3	¶¼	....
JACKSON COUNTY—		
Ohio Fuel Gas Co., Chapman 1	*	2580
WAYNE COUNTY—		
Ohio Fuel Gas Co., Koffman 1	¶½	....

NORTHWESTERN OHIO

Company, Well and Location	Initial Production Bbls.	Depth
AUGLAIZE COUNTY—		
Real Oil Co., Wierwillie 4	5	1233
HANCOCK COUNTY—		
Ridge Gas & Oil Synd. Wonder 3	*	1472
SENECA COUNTY—		
Frank Willis, Feasel 1	*	1332

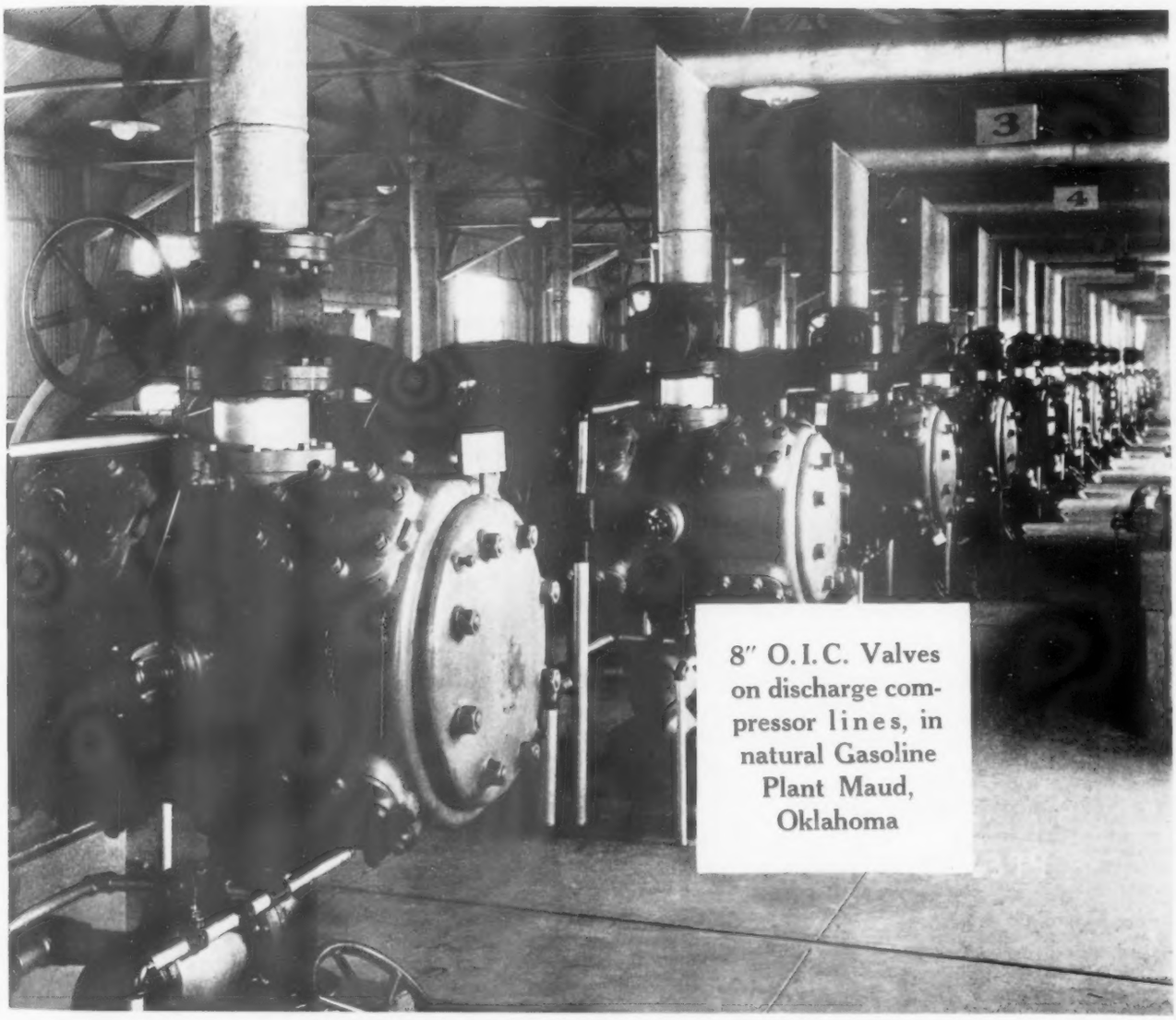
INDIANA

Company, Well and Location	Initial Production Bbls.	Depth
SPENCER COUNTY—		
Ben Robinson & Co., Huff 1 and 2	*	....
Eastern Gulf Oil Co., Schreifer 1	*	1018
Big Six Oil Co., Grass 1	*	....
SULLIVAN COUNTY—		
Harry Knox & Co., Raley 5	2	802
Fred Bays, Unger 2	*	....
SHELBY COUNTY—		
Morristown Gas Co., Morristown 1.	¶½	....
Morristown 2	¶½	....
MARTIN COUNTY—		
Berry & Stinehart, Larkin 1	*	31
Foreman & Miller, Gibson 1	*	338
ADAMS COUNTY—		
George S. Locknett & Co., Baker 4	15	....
DAVIESS COUNTY—		
Bert White & Co., McCord 1	¶¼	....
GIBSON COUNTY—		
Indiana Oil & Gas Corp., Volkman 2	¶½	....
PERRY COUNTY—		
McClurkin & Co., Lucke 1	*	710
HARRISON COUNTY—		
Southern Indiana Utilities Corp., Zimmerman 1		....

ILLINOIS

Company, Well and Location	Initial Production Bbls.	Depth
ST. CLAIR COUNTY—		
Ellis & Co., Hamil 1	2	300
Monsette 4	25	830
Robinson & Co., Dixon 1	2	90
Donway & Co., Arnold 1	*	60
Kolb & Co., Jarvis 1	*	110
CRAWFORD COUNTY—		
Warner-Caldwell Oil & Gas Co., Cortelyou 6	5	1001
Ohio Oil Co., Lamb 3	25	830
J. F. Bolinger, Evans 1	25	1000
C. C. Watson, Jepseph 8	5	870
CLARK COUNTY—		
Stohr Bros., Montgomery 10	8	....
WABASH COUNTY—		
Foreman & Miller, Payne 1	*	1700

O.I.C. VALVES



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KENTUCKY

Company, Well and Location	Initial Production Bbls.	Depth
McLEAN COUNTY—		
The Ohio Oil Co., McManama No. 2 tr. 4	20	1325
WARREN COUNTY—		
Morrow & Hays, Morgan 10	12	532
HANCOCK COUNTY—		
Vickers & Co., Middox 3	10	....
CLAY COUNTY—		
Petroleum Exploration Co., Gardner-Baker 1	¶¼	....
DAVIESS COUNTY—		
White & Vickers, Stinnett hrs. 4	*	....
Howard 2	*	....
Thrasher & Co., Cecil 1	*	....
Johnson & Co., Mackey 2	100	....
Evans, Garrison & Co., Davis hrs 4	150	....
Petroleum Explo. Co., Steve Johnson 1	50	....
Clark 1	10	....
Robbins & Stimson, Fireline 5	25	....
Wade & Moore, Boarman 1	¶½	50
Mecca Oil Co., Johnson 2	18	....
Cumberland Petroleum Co., Salmon 7	30	....
Eastern Gulf Oil Co., Ruby 12	3	....
OHIO COUNTY—		
Wood Oil Co., Inc., Rogers 6	30	....
Rogers 7	35	....
Rogers 8	40	....
Admanson 1	40	....
Mattox 12	*	....
H. L. Ogle & Co., Royal hrs. 8	60	....
T. P. Royal 10	65	....
T. P. Royal 11	50	....
T. P. Royal, T. P. Royal & Co. 7	15	....
T. P. Royal & Co., 8	20	....
T. P. Royal & Co., 9	25	....
60-a, Roy P. Baker & Co., 6	¶1-30	....
Missouri-Kansas Pipe Line Co., Whiteley 2	¶1	....
Whiteley 3	¶1	....
Leeper Oil Co., Westerfield 3	40	560
Armstead Co., Newton 1	10	....
New Domain O&G Co., Royal 8	¶¼	....
H. C. Smith Co., Kelley 1	10	....
Kelley 7	*	....
Hupp & Duff, Dunn 1	*	....
Mason-Bartlett 17	150	....
Mason-Bartlett 17	100	....
Claypool & Co., Ralph 16	20	454
J. C. Ellis & Co., Royal 3	*	....
Brenner, Adams & Co., Belamy 2	3	....
Breen & Co., Fuqua 3	20	430
Ohio Oil Co., Phister 1	60	....
Phister 2	20	....
Chester Oil Co., Stiles 1	10	....
Three Sands Oil Co., Crow 1	*	....
Daugherty & Co., Harper 4	4	....
Oliver Jenkins & Co., Hanna 1	*	....
Cumberland Pet. Co., Brown 1	*	....
Buckner & Co., Cheek 1	*	....
Missouri-Kansas Pipe Line Co., Haynes 2	¶1	....
Rex-Pyramid Oil Co., Hoover 14	75	....

MICHIGAN

MIDLAND COUNTY—		
Pure Oil Co., Reems C-2	200	....
Peak 1	50	....
ISABELLA COUNTY—		
Pure Oil Co., Wilcox 1	15	....
Rockford Illinois Synd. Harris 2	100	3601
MUSKEGON COUNTY—		
G. H. Schrackm Lauenstein 1	*	1725
L. R. Henley & Co., Koning-Bortz 3	¶1	2001

ARKANSAS

OUACHITA COUNTY—		
Skelly Oil Co., Langley 1, 35-15-15	20	2980
UNION COUNTY—		
Ohio Oil Co., Murphy 7, 9-16-15	17	2330
Woodley Pet. Co., Umstead 7, 4-16-15	¶1½	2266
Woodley Pet. Co., Umstead 8, 4-16-15	¶2	2264
Umstead 8, 4-16-15	¶2	2264

NORTH LOUISIANA

CADDO PARISH—		
Shreveport Oil Corp., Hicks et al 1, 32-21-15	75	2118
Hicks et al 2, 32-21-15	100	2119

CALIFORNIA

Company, Well and Location	Initial Production Bbls.	Depth
ELWOOD—		
Bankline Oil Co., Bell 89-1	3400	3600
HUNTINGTON BEACH—		
Sunset Pacific Oil Co., Bolsa Chica 4	200	4630
LONG BEACH—		
Hancock Oil Co., Signal 19	500	7315
Lindaver Oil Co., No. 2	800	6930
MARICOPA FLATS—		
Standard Oil Co., Graham 2	300	2930
Hancock Oil Co., Maricopa 2	1800	2995
MIDWAY—		
Chanslor-Canfield Midway Oil Co., No. 85	500	2960
SANTA FE SPRINGS—		
General Petroleum Corp., S. F. 129	1600	6830
George F. Getty, No. 33	2000	8000
Mitchell 28	1200	7380
Richfield Oil Co., Wardman 1	850	7330
Universal Consolidated Oil Co., Blanchard 6	1350	7901
SUMMERLAND—		
George F. Getty, Becker Fee 2	85	1460
VENTURA—		
Associated Oil Co., Lloyd 26	1300	6900

SOUTH LOUISIANA

BAY ST. ELAINE (Bay Coon Road)—		
T. Tex. Co., Bay St. Elaine 2, Sec. 17-22s-18e, Terrebonne Parish	¶50	790
Bay St. Elaine 3, Sec. 17-22s-18e	*	2420
EDGERLY—		
Rex Pet. Corp., Hunter 8, dd	50	3750
S. CALCASIEU LAKE—		
The Texas Co., Calcasieu Lake A-4, Sec. 1-14s-9w	*	5885
STARKS—		
Gulf, Lutcher-Moore 16	110	840

TEXAS

TEXAS GULF COAST

BATSON—		
B. O. Poole, Paraffine 2	10	915
Paraffine Oil Co., Paraffine 81	10	470
BIG CREEK—		
Gulf, T. W. Davis 25, dd	*	3980
BARBERS HILL—		
Yount-Lee Oil Co., Chambers Co. Ag. Ass'n 9	2500	4841
Mills Bennett Prod. Co., G. W. Collier 1	80	5490
The Texas Co., Wilburn 1	175	5177
Wilburn 2	700	5112
Moody Corp., Ilfrey 2	60	5196
GOOSE CREEK—		
Lee & Scott, H. F. Scott 3	15	1225
HULL—		
Republic Prod. Co., Dolbear 128, dd	350	2430
HUMBLE—		
Humble, Trahan 1	2000	5050
ORANGE—		
Brownie-Babbette Oil Co., McLean 8, dd	125	3610
Tillery Oil Co., State 3, dd	630	3520
REFUGIO—		
Mission Drlg. Co., Eskridge-Heard 1	500	3660
Morgan Oil Corp., City 3	800	3670
Houston Oil Co., Pratt-Hewitt-Rooke 10, dd	100	3703
Pearson Properties, Fox Hrs. 2	320	3708
RACCOON BEND—		
Humble-Valley, Deutrich A-6	185	3320
Deutrich A-7	280	3325
Gotosky 5	600	3318
McCasland 1	450	3120
SUGARLAND—		
Humble, Sugarland Industries B-1	400	3720
Bankers Mortgage C-1	800	3673
SPINDLE TOP—		
Yount-Lee Oil Co., Gladys City 96	50	4145
McFaddin 85, wo	520	2924
McFaddin 116	1020	4806

EAST TEXAS

PANOLA COUNTY—		
Ark. La. Pipe Line Co., Werner 7, B. C. Jordan sur	¶¾	967
Eureka Nat. Gas Co., Jeter 1, Womack sur.	¶5	2980

SOUTHWEST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
ATASCOSA COUNTY—		
Amphion Oil Co., Schlileses 1, Jos. Navarro Sur.	*	2310
BASTROP COUNTY—		
Humble, Wilhelm 1-A	*	1360
CALDWELL COUNTY—		
Calico Pet. Co., Thomas 1, 2 mi e Lockhart	*	1775
DARST CREEK—		
Magnolia, Rand Miller 1	600	2621
GUADALUPE COUNTY—		
Sights et al, Behring 1, G. DeWitt Sur., 5 mi e Seguin	*	2418
NUECES COUNTY—		
Nueces River Basin Dev. Co. Allen 1, wo	*	3935
SALT FLAT—		
Humble, Floyd Gray 11-A	40	2682
Floyd Gray 10-C	75	2391
J. L. Northcutt 4-B	75	2715
Nash-Windfohr-Perry, Davis 5-C	120	2747
VAL VERDE COUNTY—		
W. V. Thraves, Wilson 1	*	3610
Val Vert Oil Co., Bassett Ranch 2	*	4000
WEBB COUNTY—		
Houston Oil Co., Bose Benavides H-1	¶25	2291
O. W. Killam, Bruni 14	¶20	2327
ZAPATA COUNTY—		
Hill et al, Vela 1, Share 3, blk 30, Adams Subdiv.	*	1018
Sou. Tex. Prod. Co., Jennings 6, H-W-F pool, Cerrito Blanco grant	¶20	2327

CENTRAL WEST TEXAS

BROWN COUNTY—		
Bearman et al, Miller 7	20	1060
Crabb-McNeil et al, Ellsberry 6	25	1417
Gilman & McMurray, Teston 21	9	1247
Humble O&R Co., Munselle 4	20	1152
E. L. Smith Oil Co., Kessler 2	*	1320
Stout-Crabb-McNeil, Gaines 1	*	2460
Young Bros. & Alexander, Kilgore 13	*	1350
CALLAHAN COUNTY—		
Oyster & Rife, Williams 1	*	843
COLEMAN COUNTY—		
Gutzman-Aldrich et al, Haas 1	¶7½	1481
Gwinnupp-Campbell-McDonald, Rohn 1	*	2213
Simon & James, Baker 1	*	1360
Tower-McKanna, Inc., Crowder 8	150	2021
COMANCHE COUNTY—		
Sun Oil Co.-Unit Plan, Bryson 1	*	3135
EASTLAND COUNTY—		
Gholson et al, Fox 3	*	1322
PALO PINTO COUNTY—		
Montgomery-Prairie O&G Co., Carter 1	*	2315
T. P. Coal & Oil Co., Stuart 162	15	1612
Thomas et al, Satterfield 1	¶1½	3429
SHACKELFORD COUNTY—		
Big State Oil Co., Russ-Webb 14	*	1050
Hart & Gist, Clark 1	30	663
Merry-Perini-Tidal Oil Co., Davis 1	*	1580
Tannehill Oil Co., Newell 27	15	977
Texas Consolidated Oil Co., Reynolds 4-B	8	997
STEPHENS COUNTY—		
Chastain-Donley & Vacuum Oil Co., Coody 1	*	2400
Grace et al, Allison 1	*	2029
Lone Star Gas Co., Calloway 2	¶2½	2150
Pace & Ward, Norton 4	¶1¾	1825

WEST TEXAS

CRANE COUNTY—		
The Texas Co., University-Beasley 2	235	3000
FISHER COUNTY—		
Cranfill-Reynolds Co., Barrett 1	360	3130
HOWARD COUNTY—		
California Co., Roberts 9, Lse. 2	200	2900
Continental Oil Co., Kloh 2	200	2300
Plymouth Oil Co., Kloh 6	250	2325
Kloh 7	800	2257
PECOS COUNTY—		
Continental Oil Co., University 4-A	85	970
Landreth Prod. Corp., University 1-C	30	1010
University 3-C	25	994
University 1-G	55	997
Landreth-World Oil Co., University 5-B	1430	1630
World Oil Co., University 1	55	1665
WARD COUNTY—		
Atlantic & Delmar Oil Co., Hayzlett 4	65	2700
UPTON COUNTY—		
TP Coal & Oil Co., Lane 15-A	115	963

(Continued on page 113)

FRANKLIN VALVELESS OIL AND GAS ENGINES

Some of the Franklin OF Good Points

Enclosed type
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100% inter-changeability
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Piston rod is fitted with metallic packing which never needs adjusting or replacing.

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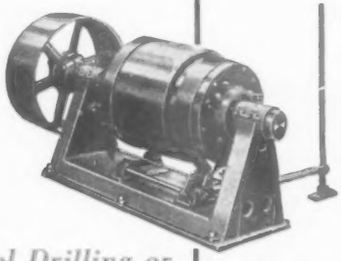

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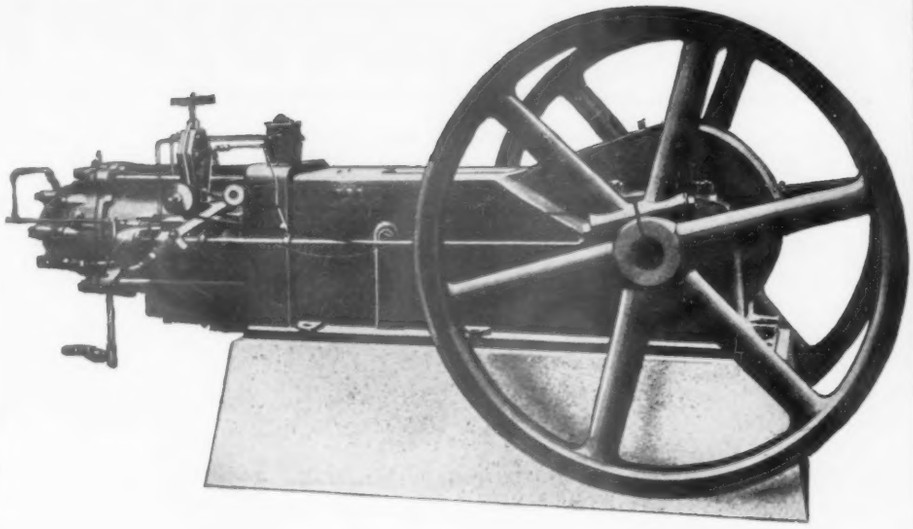

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But—new times—new conditions. So here is the Type OF —an engine in its proper size, capable of going as deep into the ground as you need to go—at a smooth, swift pace and economically.

Whether your wells are located in proven fields or in isolated sections, you cannot beat the Franklin records of low operating costs—in fuel, lubricating oil or water. Both drilling and pumping sizes mount on the same block with corresponding bolt holes. Portable, light, powerful and easily serviced. What more could you ask?

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Franklin, Pa.

PRICES—40 H.P. Type OF Franklin, including water circulating pump and pulley. $1550 F. O. B. Franklin

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80 H.P. Type OF Franklin, including water circulating pump, pulley and air starting equipment. $3200 F. O. B. Franklin

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OIL WELL SUPPLY COMPANY

Branches in All Oil Fields

PERMITS GRANTED FOR NEW WELLS

WEEKLY COMPARISON OF NEW WELLS

Following is a condensed table giving a comparison of permits or locations made for new wells during the past year in Kansas, Oklahoma, Arkansas, Louisiana, Texas, California and the Mountain States:

	Week ending Nov. 23	Previous Week	Total this Month	Total this Year	This Week 1928	This Month 1928	1928 Year Total
Arkansas	2	3	5	150	4	18	331
California	15	21	71	1,149	24	96	1,207
Louisiana	8	23	73	834	16	48	680
Kansas	17	10	69	1,004	36	89	1,032
Oklahoma	60	60	278	3,215	71	325	3,744
Texas	184	178	729	7,983	184	704	8,297
Total	286	295	1,225	14,335	335	1,280	15,291

ARKANSAS

OUACHITA COUNTY—J. E. Crosbie, Inc., Tulsa, Okla., H. Primm 4, 300 w 250 n sec se ne 23-15-16.

UNION COUNTY—Joe Modisette Drilling Co., El Dorado, Ark., Union Sawmill Co. 1, 320 s 320 e nwc ne sw 5-17-12.

LOUISIANA

BOSSIER PARISH — Simon Goldman, Shreveport, Vance McFarland 1, 7-19n-13w, 100 ft n and 660 ft e of sw c of sec.

CAMERON PARISH — The Texas Co., Shreveport, State Calcasieu Lake 5, Calcasieu Lake, 8760 ft w and 700 ft n of se c Sec. 36-13s-9w.

LA SALLE PARISH—Gardner, Brown & Harter, El Dorado, Ark., S. J. Winberry 1, 18-10n-2e, 400 ft w and 150 ft s of ne c ne nw. Tunica Pet. Co., Inc., Shreveport, L. & A. Oil Co. 52, 17-7n-2e, 660 ft n and 660 ft w of se c of sec.

OUACHITA PARISH—Austin-Jordan Drlg. Co., Monroe, Albright 1, (Amended Permit) 12-18n-3e, 137 ft w and 364 ft s of northwesterly c of sec.

SABINE PARISH—Magnolia, Shreveport, E. E. Hall 5, 33-10n-12w, 350 ft n and 312 ft e of sw c nw sw. W. P. Stiles, Tr., Shreveport, Moore Hrs. 2, 32-10n-12w, 990 ft s and 330 ft w of ne c se.

ST. MARY PARISH—Freeport Sulphur Co., Freeport, Tex., Premier Oil & Sulphur Co. 7, 35-17s-10e, 1325 ft n and 50 ft w of se c of sec.

TERREBONNE PARISH—The Texas Co., Shreveport, State Bay St. Elaine 4, 17-22s-18e, 50 ft n and 50 ft e of sw c of sec.

CALIFORNIA

BREA-OLINDA—Brea Canyon Oil Co., No. 47, 1-3-10.

COYOTE—Standard Oil Co., Bastanchury 1, 21-3-10.

ELWOOD—Bankline Oil Co., No. 89-2, 15-4-29.

LONG BEACH—Graham-Loftus Oil Corp., No. 3, 24-4-13.

LOS ANGELES COUNTY—Frank O. Creasey, Veach 1, 21-3-13.

MIDWAY—Honolulu Cons. Oil Co., No. 75, 8-32-24.

MT. POSO—Signal Oil and Gas Co., Signal-Glide 15-C, 27-27-28.

RICHFIELD—Superior Oil Co., Davis 1, 6-4-9.

SAN MATEO COUNTY—Stratton Pet. Corp., No. 1, 16-6-5.

SANTA BARBARA COUNTY—Standard Oil Co., S. B. County 1, 11-4-28. D. A. Hargrave, No. 1, 27-4-27.

SANTA FE SPRINGS—General Pet. Corp., Santa Fe 219, 5-3-11; Santa Fe 231, 5-3-11. George F. Getty, Inc., S. F. S. 48, 6-3-11.

SUNSET—North American Oil Cons., Lincoln 2, 18-11-23.

KANSAS

BUTLER COUNTY—Empire O. & R. et al, Marshall "A" 1, se ne sw, 11-27-5e.

COWLEY COUNTY—Croux et al, Powers 3, sw, nw, 9-32-5e. Lewis Production, et al, Fitzgerald 1, nw ne sw 20-31-6e. Mission Oil Co., Martin 1, c nw nw 21-31-6e. Hull et al, Wallace 16, nw ne se 24-32-4e.

DICKINSON COUNTY—Cress et al, Sanders 1, ne, 12-15-2e.

ELLIS COUNTY—Vickers Petroleum, Watson 1, c se, 30-15-20w.

GREENWOOD COUNTY—Balliere et al, Branard 1, sw, ne, 32-22-10e. O'Niel et al, Brinn "A" 1, nw ne nw, 34-22-11e.

LYON COUNTY—Gordon and Staats, Boehl 1, ne se nw, 16-17-10e.

McPHERSON COUNTY—Gypsy, Kinney 1, ne nw sw, 34-20-3w. Slick, Pryor and Lockhart, Stuckey 1, se sw sw, 27-20-3w.

RICE COUNTY—Tatlock et al, Plogg 1, c sw se, 33-18-9w.

SEDGWICK COUNTY—C. B. Davis, Arsdale 1, se nw se, 14-27-1w. Dixie, and Amerada, Foulston 1, ne, sw sw nw, 11-26-2e. Bu Vi Bar, et al, Lyons 4, nw, ne nw sw, 7-26-1e. Reynolds and Rogers, Updergraff 1a, se sw se 26-25-1w.

OKLAHOMA

CADDO COUNTY—Caddo Pet. Co., Estes 1, c sw sw, 33-6n-9w, (OWDD). English Drlg. Co., Albernathy 3, (OWDD) nw, se se 31-6n-9w. Noble and Olson, Rowe 3, sw, nw se ne 36-6n-10w. Magnolia, Niles 3, se, ne nw 36-6n-10w (OWDD). Magnolia, D. Rowe 7, nw, sw ne 36-6n-10w. Magnolia, D. Rowe 6, se, ne sw ne 36-6n-10w. Louisiana Oil Ref. Co., Rowe 1, (OWDD) sw, nw ne 36-6n-10w.

CARTER COUNTY—Magnolia, E. Gill 5, ne se ne 23-1s-3w.

COTTON COUNTY—Wirt Franklin, Chambers 5, c sw se 35-1s-10w. Shasta, Cobb 3, cnl s½ ne, 2-2s-10w. Razor et al, Chambers 3, se, sw, 35-1s-10w. Barnsdall, Keys 16, ne, se ne sw 33-1s-10w.

CREEK COUNTY—Atlantic Oil Producing Co., Reynolds 1, sw, nw ne, 16-14-10e, (OWDD). Wilcox et al, Johnson 1, sw nw se 6-14-10e. Skelly, Foster 1, ne se sw, 30-15-9e, (OWDD). Reiter-Foster, Littlehead 2, csl sw se 17-17-10e. O. M. Ireland et al, Hay 2, nw, ne ne sw 3-17-10e. Holmes and Button, Cook 1, nw, ne 14-18-9e. Foster Pet. et al, Hinton 1, ne se se 26-19-8e.

HUGHES COUNTY—Independent, Brown 1, se sw ne 18-9-9e.

KAY COUNTY—DeCamp et al, Warren 1, c sw nw 30-28-1e.

LINCOLN COUNTY—Magnolia, Myers 1, nw ne ne 17-14-4e.

MARSHALL COUNTY—Cox and Hamon, McComas 1, nw sw sw 13-5s-5e.

MUSKOGEE COUNTY—C. F. Ray et al, Foreman 1, se, ne sw se 15-13-18e. W. J. Metzger et al, Taylor 2, nw se, 14-14-18e. H. L. Jelly, Cherry 4, ne nw 2-14-18e. W. J. Metzger et al, Francis 11, se sw nw sw, 1-14-18e.

OKFUSKEE COUNTY—Twin State, Crumme 1, sw, ne, 32-12-10e.

OKMULGEE COUNTY—J. E. Hennessey, Fee 1a, ne, se sw, 9-13-14e. C. D. Burns, Stevens 4 (OWDD) c se se, 1-14-12e. Campbell and Cochran, DePriest 1, ne, 19-15-13e. Kirkland and Son, Gibson 2a, ne, sw ne 17-15-13e. Kirkland and Son, Carr 2, sw, nw sw, 17-15-13e.

OSAGE COUNTY—Indian Territory Illuminating, 4, ne, sw sw 28-23-9e. Indian Territory Illuminating, 424, se, sw se nw, 8-24-9e. Peters Petroleum, 3, nw ne nw, 27-27-11e. Barnsdall 6, (OWDD) ne se ne 27-22-10e.

PAYNE COUNTY—Reiter-Foster, Finnell 1, c ne nw 8-19-1w.

PAWNEE COUNTY—H. U. Bartlett, Fleming 2, se, 15-20-9e. Capitol Hill Oil Co., Green 2, se ne se, 25-21-8e.

PITTSBURGH COUNTY—Midwestern Oil & Gas Co., Colton 1, se sw se, 9-7-18e.

PONTOTOC COUNTY — Benedum and Trees, Mole 7, se sw sw, (TWIN) 31-5-5e. Homaolka, Ritchie 7, sw se se, 1-4-7e. Payne and Clark, Shields 2a, sw, se 20-5-8e.

POTTAWATOMIE COUNTY — Skelly, Decker 3, se sw sw 16-7-4e. Amerada, Richardson 2, sw se sw, 16-7-4e.

SEMINOLE COUNTY—Pure Oil, Harjo 5, (TWIN) ne sw ne 11-7-6e. Carter, Jackson 7, (TWIN) se nw ne 11-7-6e. Tidal, et al, Lasley 2, nw sw se 19-9-6e. Carter, C. Empire 1, ne sw, 16-9-6e. Carter, Harber 4, se sw se 7-9-6e.

STEPHENS COUNTY—Magnolia, Hanson 4, sw se nw, 12-1s-4w. Amerada, Hanson 7, nw ne sw 12-1s-4w. Amerada, Hanson 6, ne nw sw 12-1s-4w. Atlantic Oil Producing, Taylor 4, se sw nw 12-1s-4w. Magnolia, McClure 1, ne, 19-1s-8w. T. B. Slick, Blake 1, ne, sw sw 16-1s-8w.

TULSA COUNTY—L. E. Lockhart et al, Childers 1, csl se sw 28-17-14e.

WAGONER COUNTY—Union Oil Co., McKellop 1a, nw, ne nw 25-18-15e. H. W. Bauder, Scherlay 1a, se, ne, 7-18-15e.

TEXAS

ARCHER COUNTY—Sun Oil Co., Dallas, W. T. Richardson 100, 10, 2425 TE&L sur, 150 ft from s and w lines.

AUSTIN COUNTY—Humble, Houston, R. R. Urban 50, 8, W. C. White sur, 150 ft from se and sw lines; R. G. Paine 5, W. C. White sur, 1960 ft from nw and 150 ft from sw lines; R. B. Woodley 6, Wm. Harvey sur, 150 ft from sw and se lines; A. Mueller 8, W. C. White sur, 250 ft from ce and sw lines; S. E. Helmuth 3, Wm. Harvey sur, 250 ft from nw and sw lines; R. R. Jackson 3, W. C. White sur, 250 ft from se and sw lines; S. College 5, Wm. Harvey sur, 2000 ft from ne and 150 ft from sw line.

ANGELINA COUNTY—Reserve Pet. Co., Beaumont, Henderson 500, A2, W. H. Holdman sur, 150 ft from w and 300 ft from s line.

BROWN COUNTY—Humble, Cisco, J. C. Martin, 52, 2, S 11, HT&B sur, 300 ft e of No. 1. Derby Pet. Co., Tulsa, Okla., D. Belvin, 40, 4, S 42, R. C. Chadwick sur, 150 ft from n and w lines. E. L. Smith Oil Co., Inc., Mexia, L. A. George, 100, 10, S 42, HT&B sur, 255 ft n of No. 9. Texas Co., Cisco, W. S. Johnson, 80, 5, M. B. Nix sur, 300 ft. n of No. 4. Mac T. Anderson, Rising Star, W. B. Trammel, 161, 3, F. G. Stewart sur, 850 ft e and 450 ft from s line. Cranfill & Reynolds Co., Dallas, L. W. McDonald, 40, 2, C. J. Carrier No. 60 sur, 1945 ft from n and w lines. K. J. Michel, Brownwood, R. Hickman, 40, 1, F. M. Kinsey sur, 150 ft from n and w lines.

BEE COUNTY—Mission Drilling Co., San Antonio, Ray 5, 1200 ft e of No. 2; Ray 3, 2½ miles se of No. 1; Ray 4, 1500 ft nw of No. 1.

CALLAHAN COUNTY—J. J. Mundy, Colorado, J. E. Green, 4, 1, S 27, D&D Asy. sur, 650 ft from e and 150 ft from s line SE¼ NE¼. J. C. Hunt et al, Abilene, J. Cottle, 80, 2, 3196 TE&L sur, 820 ft from n and 940 ft from w line of NW¼. St. Mary's O. & G. Co., Moran, W. E. Pruitt, 42, 15, 2278 TE&L sur, 50 ft e of No. 5, M. C. McDonald, Putnam, J. L. W[illegible] 20, 1, 2277 TE&L sur, sw corner. R. D. Williams, 60, 1, 2269 TE&L sur, 150 sw of No. [illegible] Moutray Oil Co., Abilene, E. A. Hearne, [illegible] S 129, BBB&C sur, 300 ft from n and w lines. A. Hickman, 445, 1, S 149, BBB&C sur, [illegible]

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Pumps for cementing service should be designed for extreme durability notwithstanding severe shocks and heavy pressures. Parts should be easily accessible for inspection or renewals. Gardner-Denver Booster Pumps fulfill these requirements. The Independent Oil Well Cementing Company outfit shown above is equipped with two Gardner-Denver Steam Booster Pumps. Ask for Bulletins P-31 and 32.

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GARDNER-DENVER

from e and 245 ft from s line of ne¼. L. G. Bradstreet Co., Fort Worth, J. L. Cavanaugh, B 51, 2, B 98, C.C.S.L. sur, sw corner. Ewmo Oil Corp., Abilene, A. W. Beasley, 30, 7, S 25, D&D Asy. sur, 150 ft from s and 660 ft from e line of SE¼. Heist & Hart, Putnam, J. S. Hart, 40, 2, S 7, D&D Asy. sur, 450 ft from W and 150 ft from s line NW¼NW¼.

COLEMAN COUNTY — Miller Bros. & Mitchell & Groves, Coleman, C. C. Wilkinson, 120, 1, No. 720 J. Wiley sur, 250 ft from n and w lines. Midwest Exploration Co., Coleman, J. P. Morris, 40, 1, No. 750 A. Neuschaffer; J. P. Morris, 80, 2, No. 750 A. Neuschaffer. Atlantic Oil Prod. Co., Dallas, M. T. Overall, B 42, B1, S 9, B 1, GH&H sur, 200 ft from n and 800 ft from w line. Acrey Oil Co., Grosvenor, J. K. Baker, 80, 1, B 250, C. C. Bruff sur, 1050 ft form s and 150 ft from w line. Diana Oil Co., Box 1923, Tulsa, Okla., J. P. Morris, 27, 1, S 27, B 722, Webber sur, 150 ft from s and e lines.

CARSON COUNTY—Texas Co., Wichita Falls, J. L. Noel, 160, 3, S 187, B 3, I&GN sur, 330 ft from s and e lines of NW¼. Ryan Consolidated Pet. Corp., Tulsa, Okla., B. F. Block, 160, 7, S 111, B 4, I&GN sur, 330 ft from s and 990 ft from e line NE¼.

CLAY COUNTY—Saxet Oil Co., Petrolia, Stine, F. 20, 18, B 2, PCSL sur, 150 ft from E and 200 ft from s line; 14, 150 ft from w and 175 ft from s line; 13, 150 ft from n and w lines. Merrick & Goldsmith, Wichita Falls, Byers, 80, 2, B 15, Byers sur, 300 ft s of No. 1. Merrick & Belcher, Wichita Falls, Evans, 80, 7, B 6, P. C. S. L. sur, 320 ft from e and 490 ft from s line.

CALDWELL COUNTY — Alexander & Smith Oil Co., Houston, G. W. New, 20, 1, J. Hinds sur, 150 ft from n and w lines. San Antonio Pet. Co., San Antonio, G. Wackerhagen, 164, 1, T. Maxwell sur, 150 ft from e and 450 ft from s line.

COOKE COUNTY—Danciger O. & R. Co., Fort Worth, J. F. Huggins, 76, 16, Blk. 9, S. P. Ry. sur, 510 ft from e and 392 ft from s line.

CRANE COUNTY—Warner-Quinlan Co., Dallas, Davis, 80, 6, S 39, B 30, Univ. sur, nw corner.

CROCKETT COUNTY—Magnolia Pet. Co., Dallas, A. C. Hoover, 1, S 12, B 1, GC&SF sur, 330 ft from e and 2970 ft from s line sec.

DUVAL COUNTY—Trapshooter-Reilly Oil & Royalties Co., San Antonio, C. Hahl, 40, 3, B 27, S 250, ne corner; No. 2, West of No. 1.

DEWITT COUNTY—F. P. Zoch, San Antonio, E. Steinman, 701, 1, J. Garelli 7 sur, 647 varas from nw and 349 varas from sw line sur.

ERATH COUNTY—Peters, Bard & Gilliland, Tulsa, Okla., J. H. Mulloy, 646, 1, S 49, T&NO sur, 200 ft from n and w lines.

FORT BEND COUNTY—Humble, Houston, Camp, 262, 9, Wm. Stafford sur, 1365 ft from s and 250 ft from e line; Nelson, 1000, 7, Wm. Little sur, 650 ft from n and 3250 ft from w line.

FOARD COUNTY—Humble, Wichita Falls, J. Matus, 2, S 33, B 8, H&TC sur.

FISHER COUNTY—Cranfill & Reynolds, Dallas, D. M. Bledsoe 1, S 200, CCSD&RGNG sur, 330 ft from s and w lines of SE¼.

GRAY COUNTY—Gulf Prod. Co., Fort Worth, G. H. Saunders, 160, 3, S 3, B 1, ACH&B sur, 330 ft from n and e lines of SW¼. Shamrock O. & G. Co., Amarillo, Lincoln, 80, 3, S 3, B 1, ACH&B sur, 330 ft from s and w lines of W½ of NE¼. White Eagle O. & R. Co., Amarillo, Cooke, 160, 3, S 29, B B2, H&GN sur, 330 ft from w and 1158 ft from s line.

GONZALES COUNTY—United North & South Dev. Co., San Antonio, J. E. Preston, 102, 1, J. Oetkin sur, 750 ft from w and 1350 ft from s line.

GUADALUPE COUNTY—O. W. Killam, Laredo, C. N. Adams, 40, 1, Jas. Hodge sur, 150 ft w of center of e line.

HOWARD COUNTY—Simms Oil Co., Dallas, H. R. Clay, 80, 2, S 127, B 29, W&NW sur, 330 ft from s and e lines of E½ of SW¼. Midwest Explo. Co., Amarillo, H. Clay, 80, C5, S 138, B 29, W&NW sur, 330 ft from n and 990 ft from e line S½ of SE¼. Ward Oil Corp., Ardmore, Okla., D. Roberts, 80, 21, S 137, E 29, W&NW sur, 330 ft from n and 1040 ft from w line N½SW¼. Amerada, Fort Worth, D. Roberts, 240, 14, S 137, B 29, W&NW 460 ft e of No. 7. Empire G. & F. Co., Wichita Falls, Clay, 80, 4, S 127, B 29, W&NW sur, 330 ft from s and w lines, W½ of SE¼. Continental Oil Co., Wichita Falls, H. R. Clay 1, 120, 2, S 127, B 29, W&NW sur, 990 ft from w and 330 ft from s line sec. California Co., Colorado, D. Roberts, 80, 5, S 137, B 29, W&NW sur 660 ft e of No. 3. Godley O. & G. Co., Dallas, A. J. Hooks, 80, 17, S 140, B 29, W&NW sur, 660 ft from n and 200 ft from e line.

HARRIS COUNTY—Gulf Prod. Co., Houston, E. R. Taylor, 31, No. 52, J. Hamilton sur, 929 ft from n and 301 ft from w line. Texas Co., Houston, Dunman, 25, 3, W. W. Williams sur, 250 ft s of No. 1; No. 2, 250 ft w of No. 1.

HARDIN COUNTY—Lake View Oil Co., Sour Lake, Minor Oil Co., 15, 8, S. Jackson sur, 310 ft from s and 300 ft from n line. Rio Bravo Oil Co., Houston, Fee, 158, C86, J. F. Cotton sur, 200 ft e and 280 ft n of No. 79. C89, 230 ft e of No. 79.

IRION COUNTY—W. G. & W. H. Beasley, San Angelo, Sawyer, 160, 1, S 3032, Blk. 24, H&TC sur, center of SW¼.

JEFFERSON COUNTY—Stella Oil Co., Beaumont, Trembley 1/3, 16, Blk. 22, J. A. Veatch sur, 40 ft from n and 50 from w line Lot 7. Yount-Lee Oil Co., Beaumont, McFaddin, 120, P. Humphreys sur, 550 ft from w and 1285 ft from n line. Gulf Prod. Co., Houston, G. W. Junker, A 430, 1, W. H. Smith sur, 210 ft from n and w lines.

JACK COUNTY—Harper Pet. Corp., Mineral Wells, J. M. Box, 20, 6, I. Hughson sur, 200 ft from e and 330 ft from s line; W. R. T. Ezell, 42, 3, I. Hughson sur, 200 ft from e and 1055 ft from s line; No. 6, 150 ft from w and 1330 ft from s line.

JONES COUNTY—Continental Oil Co., Wichita Falls, W. R. Phillips, 180, 1, S 16, B 19, T&P sur, 330 ft from e and 440 ft from s line.

KERR COUNTY—D. B. Mascho, Fort Worth, J. L. Love, 640, 1, S 1594, CCSD&RGNG sur, 5280 ft from n and 1000 from w line.

KLEBERG COUNTY—Bowen & Simmons, Kingsville, R. H. Simmons, 40, 1, S 7, Kin Add. sur, nw corner of SW½.

LIBERTY COUNTY—Cranfill & Reynolds, Cisco, T. G. Davis, 806, 1, D. L. Kokernot sur, 50 ft from s and e lines of survey. Houston Prod. Co., Houston, Barngraver 6, 14, J. Devore sur, 40 ft from e and 205 ft from s line. Empire G. & F. Co., Daisetta, O'Brien, 99, 9, M. G. White sur, 263 ft from s and 944 ft from w line; No. 10, 1144 ft from w and 263 ft from s line. Yount-Lee Oil Co., Beaumont, Moore's Bluff Corp., 34, 2, No. 150, F. M. Gardner sur, 200 ft from n and w lines.

LIMESTONE COUNTY—Baggett & Woodside & Baggett, Mexia, J. Richardson, 75, 1, S. Bridgeman sur, 298 ft from n and 494 ft from e line. Maley & Heeman, Fort Korth, D. Wilkes, 123, 1, J. Breeding sur, 150 ft from n and e lines.

LIVE OAK COUNTY—Simmons Oil Co., Three Rivers, R. W. Coquat, 263, 1, 1000 ft from w and 2250 ft from s line.

MEDINA COUNTY—T N T Drilling Co., San Antonio, V. Mangold, 224, 1, I. S. Palmer, sur, se corner.

MONTAGUE COUNTY—Texas Co., Wichita Falls, H. S. Henley, 20, 2, F. Robertson sur, 150 ft from s and w lines. A. V. Grant et al, Wichita Falls, Cobb, 100, 1, R. H. Grimes sur, 150 ft from n and e lines.

McLENNAN COUNTY—C. E. Bonwell, Mclano, Hardwick, 60, 1, Rutherford sur, 300 ft from w and 400 ft from s line.

MITCHELL COUNTY—California Co., Colorado, W. L. Foster, 640, 8, S 6, B 29, T&P sur, 1100 ft from n and 990 ft from e line sec.

MILAM COUNTY—Lloyd Oil Corp., Fort Worth, S. Clement, 147, 1, A. Fokes sur, 150 ft from w and 1828 ft from s line.

NAVARRO COUNTY—G. C. Kent, Corsicana, C. W. Lockhart, 85, 6, R. C. S. K. sur, 310 ft se of No. 5; No. 7, 310 ft se of No. 6.

NUECES COUNTY—H. G. Yakey, Agua Dulce, A. R. Roberts, 1, J. J. Elliff sur, 150 ft from w and 545 ft from s line, Blk. 79.

PECOS COUNTY—Trees Oil Co., Winfield, Kas., Trees, 640, 1, S 43, B 8, H&GN sur, se corner of sec. Freeland & Miller, Lubbock, Pecos Valley Oil Co., 40, 1, S 36, B 3, H&TC sur, 150 ft from s and w lines of SW¼ of NW¼. Landreth Prod. Corp., Fort Worth, Univ. 1, 40, 11, S 24, B 18, Univ. Lands sur, 330 ft from n and e lines of sec; Univ. A, 80, 5, S 13, Blk. 18, 330 ft from s and e lines of sec; No. 6, 330 ft from s and 990 ft from e line of sec. H. T. Odneal, Fort Stockton, H. L. Winfield, 640, 1, S 1, B 132, T&St. L. sur, 150 ft from w and 2640 ft from s line. Gulf, Fort Worth, I. G. Yates, 3992, 26, R. C. S. L. sur, 8027 ft from w and 1700 ft from s line. Buell, Hagan & Pope, San Angelo, Pryor, 80, 1, S 54, B 10, H&GN sur, 2490 ft from ne and 1170 ft from nw line sec. Continental Oil Co., Wichita Falls, Univ. A, 687, A2, S 6, Blk. 17, 330 ft from n and 1680 ft from w line; No. A3, 330 ft from n and 2371 ft from w line of sec. Landreth Prod. Corp., Fort Worth, Univ. A, 80, A7, S 13, B 18, Univ Lands sur, 330 ft from e and 1605 ft from s line sec; Univ. F, 40, 2, S 31, B 16, 1650 ft from w and 2310 ft from s line sec; No. 3, 2310 ft from s and w lines. Texas Co., Wichita Falls, C. Graef, 100, 1, No. 44½, C. Graff sur, 908 ft from s and w lines. Gulf Prod. Co., Fort Worth, M. A. Smith, 640, 22, S 22, B 194, GC&SF sur, 330 ft from n and 1710 ft from w line sec. Dittman Drilling Co., & Blach, Fort Stockton, Pecos Valley Oil Co., 40, 1, S 34, B 3, H&TC sur, 160 ft from s and w lines of NW¼.

PANOLA COUNTY—Arkansas Louisiana Pipe Line Co. Shreveport, La., L. Werner, 71, 8, J. Matthews Hrs. sur, 660 ft from n and 640 ft from e line. S. H. Gardner et al, Shreveport, La., Lawless 1, J. L. Matthews sur, 375 ft from e and 150 ft from s line of sur. Magnolia, Dallas, M. Jernigan, 185, 1, J. Tharpe sur, 330 ft from s and e lines. S. H. Gardner, Waco, G. E. Brumble, 94, 5, B. C. Jordan sur, 4132 ft from n and 5966 ft from w line survey.

PALO PINTO COUNTY—Mingus Gas Co., Mingus, J. Slemmons, 80, 1, S 45, B 3, T&P sur, 365 ft from n and 350 ft from e line E½ of NW¼.

POLK COUNTY—W. H. Freeman, Leggett, Fee, 2000, 2, A. M. de la Jarza sur, se corner.

REFUGIO COUNTY—Houston Oil Co., Houston, Pratt-Hewitt, 472, 12, T. Mullen sur, 400 ft from e and 1050 ft from s line; No. 11, 1000 ft s of No. 10. Refugio Oil Corp., Refugio, J. J. Murphy, 2, 1, Blk. 53, Refugio sur, ne corner. Mission Drilling Co.; San Antonio, T. P. Shelly 40, 3, 200 ft from n and 176 ft from e line; O'Brien, 36, 2, 725 ft from n and 200 ft from w line; E. Heard, 50, 1, 330 ft from w and 250 ft from s line. Independent O. & G. Co., Midland, T. P. Shelly, 20, 1, Lot 4, Refugio sur, 150 ft from n and e lines.

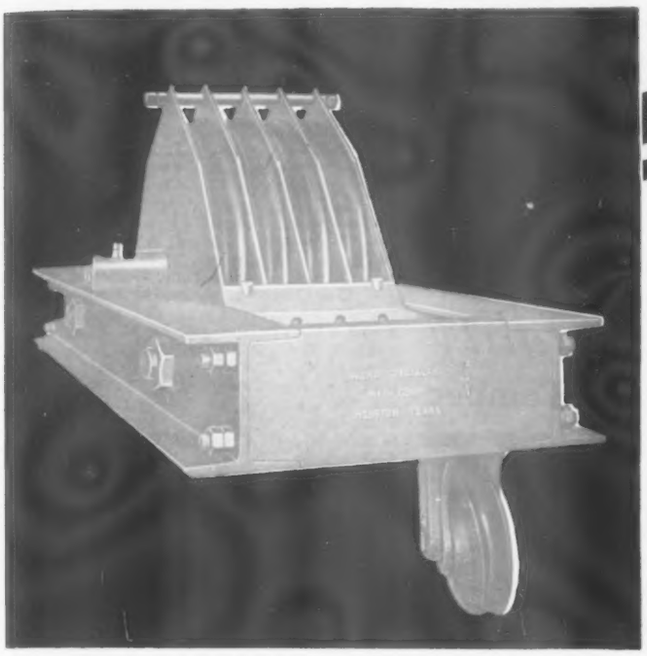
ROBERTS COUNTY—O. W. Killam, Laredo, S. P. Scarmarda, 103, 1, E. Boren sur, 150 ft from w and 1300 ft from s line.

SHACKLEFORD COUNTY—St. Mary's O. & G. Co., Moran, J. W. Littlefield, 112, 27, S 7 L. A. L. sur, 300 ft w of No. 21. Hart & Gist, Albany, T. A. Deats, 40, 1, S 20, E 11, T&P sur, 150 ft from w and 750 ft from s line SE¼. Cranfill & Reynolds Dallas, J. B. Matthews 1, S 31, E. T. Ry sur, 150 ft from s and w lines of sec. Humble, Cisco, G. R. Davis, A, 5, S 2, B 13, T&P sur, 1955 ft from n and 3300 ft from w line sec. Hart & Gist et al, Albany, O. Clarke, 40, 2, S 2, Blind Asy. sur, 870 ft from n and w lines of NE¼. F. N. Palm, Albany, V. Palm, 40, 2, S 45, Blind Asy. sur, 300 ft w of No. 1, in NE¼. H. C. Heath Ranger, A. J. Beck, 60, 1, S 49, B 6, T&P sur, 150 ft from s and w lines, (Stephens County). C. H. Helf et al, Albany, W. H. Green, 80, 1, S 33, Blind Asy. sur, 150 ft from s and w lines. Layne Pet. Synd., Moran, S. S. Diller, 40, 2, S 42, K.A.L. sur, 300 ft from n and 150 ft from e line SE¼ of SW¼. L. H. Francisco, Moran, L. L. Harris, 40, 1, S 92, Univ. sur, 320 ft from n and 640 ft from e line of SE¼; T. T. Brooks, 40, 4, S 90, Univ. Lands sur, 150 ft from n and e lines; No. 5, 158 ft from n and 320 ft from e line of n.

STEPHENS COUNTY — H. C. Heath, Ranger, A. J. Beck, 60, 1, S 49, B 6, T&P sur, 150 ft from s and w lines. T. P. Coal & Oil Co., Thurber, C. Binney, 640, 77, S 45, B 4, T&P sur, 2000 ft from n and 800 ft from w line.

THROCKMORTON COUNTY — Continental Oil Co., Wichita Falls, S. J. Walker, 80, 3, 907 TE&L sur, 776 ft from e and 150 ft from n line sec. Ewmo Oil Corp., Abilene, N. L. Davis, 80, 2, 901 TE&L sur, 300 ft n of No. 1, SW¼. Cranfill & Reynolds Co., Dallas, R. P. Lee, 40, 4, S 198, BBB&C sur, nw corner of NE¼ of SE¼. Geo. Mollenkopf, Woodsboro, J. E. Hughes, 60, 1, 902 TE&L sur, 150 ft from n and e lines of survey. Henry Psencik, Woodson, J. T. Odell, 40, 1, 695, TE&L sur, 150 ft from S and E lines of sec.

UPTON COUNTY—Gulf Prod. Co., Fort



Word's Never Fail

A FEATURE of great importance in the construction of The Word Crown Block is,—That it is so designed and built that it can be easily and quickly dismantled and re-assembled—only four bolts to pull and replace.

The frame is made of 10″ 56 lb. "H" beams, all cut to standard lengths. The end spacers of the block are of cast steel of thirty to forty carbon. This frame has a bearing on the water table all of the way around, giving a very solid bearing where there will be no extra strain on any one part of the water table. This frame is also galvanized so as to prevent rust or corrosion.

The Sheaves are 30″ A. P. I. standard, made of Manganese Steel with 5″ American Roller Bearings. All of the sheaves are oiled separately through the shaft which will give positive lubrication by the alemite system.

The shaft is made of 5″ Nickel Alloy Steel Shafting. This shaft is so made that each sheave can be oiled with the alemite system separately. There are no boxes to be running hot nor bolts to be getting loose. The main shaft is supported on both ends of the spacer plates (which are of 3/8″ Boiler sheet, galvanized) by two 3″ Pins with Hexagon nuts to keep them from working loose. The plates are spaced by steel spacers cast en bloc accurately so there will be no rub on the sheaves.

The cat line sheave is of cast iron 13½″ O.D. A.P.I. standard with shafts of 2-3/16″ Cold Rolled material, oiled by the alemite system through the hub of the sheaves, also furnished with American Roller Bearings.

The hangers are of cast steel so made that by loosening two bolts, you can slide the sheave on any part of the crown block where the driller might want same. All bolts and nuts are galvanized.

The approximate weight of this crown block is 3000 lbs. All parts of this Crown Block except sheaves and shaft are galvanized after machining and drilling, insuring maximum resistance to corrosion.

Word Specialty Manufacturing Co.

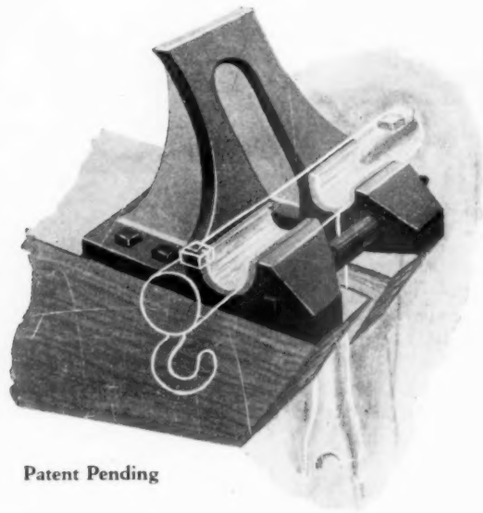
HOUSTON. TEXAS.

REGAN
Rigid Crown
BLOCK
for
Extra Deep
DRILLING

BURNS—*A Name That Has Always Stood for Highest Quality*

SPEED EFFICIENCY ECONOMY

express **Burns** *quality* **in the Burns Tubular Temper Screw**—*the standard for cable tool drilling.*



Patent Pending

This same BURNS *Quality is in this new product*

THE BURNS BEAM BEARING

for Temper Screws, saves the beam and makes unnecessary the practice of *half-soling*, or nailing a block of hardwood to the beam head. A *Safety first* device as it is impossible for Temper Screw to jump out.

No working parts, nothing to get out of order. Babbitt bearings prevent wear on the temper screw head. For sale by your Supply Store. Write for prices.

BURNS *Tool Company*

OKMULGEE · OKLAHOMA

Worth, E. S. Hughes, 200, 3, Wm. Teer, 161 ft from s and e lines. Texon Oil & Land Co., Big Lake, Shark, 160, 2, S 25, B 1, MK&T sur, 430 ft from n and 330 ft from w line NW¼. T. P. Coal & Oil Co., Ranger, J. F. Lane D, 1, S 36, B 1, MK&T sur, 330 ft from s and w lines.

WICHITA COUNTY—J. A. Thomas, Burkburnett, C. T. Taylor, 5, 2, B 98, R.R.V.L. sur, north central part of lease. Humble, Wichita Falls, A. J. Schulz, 27, GC&SF sur, 350 ft w of No. 8. T. F. Hunter, Wichita Falls, J. & J. Waggoner 36, S 8, GH&H sur, 137 ft from w and 900 ft from s line; J. & J. Waggoner, 40, 10, B 1, H. George sur, 55 ft n of No. 3. Venmex Oil Co., Wichita Falls, Robinson, 80, 1, S 310, Wag. Col. sur, sw cor of Z blk. 10; Wittenbach, 80, 3, S 303 Wag. Col. sur, 150 ft from n and e lines of Blk 305. D. M. Rose, Wichita Falls, S. Mitchell, 50, 19, P. Castleman sur, 300 ft nw of No. 17. Arkansas Fuel Oil Co., Shreveport, La., Kemp-Kempner, 48, 33, B 82, WVFL sur, 304 ft e of No. 32. Bonner Oil Co., Wichita Falls, Beach, 70, 50, C. T. Ry. No. 4 sur, 300 ft se of No. 47. Chilton & Hamer, Electra, W. F. Hamilton, 100, 1, B 7, E. Duran sur, 750 ft from n and 185 ft from e line. Bonner Oil Co., Wichita Falls, Beach, 42, 48, No. 4 C. T. Ry. sur; No. 49. Star Drilling Co., Wichita Falls, R. L. Crudup, 13, 3, B 10, D. C. S. L. No. 4 sur, 250 ft e of No. 1. Arkansas Fuel Oil Co., Shreveport, La., Kemp--Kempner, 60, 2, 2, B 82, W.V.E.L. sur, 210 ft s of No. 18.

WILBARGER COUNTY — Fain - McGaha Oil Corp., Wichita Falls, W. T. Waggoner, W, 100, 21, S 32, B 4, H&TC sur, 500 ft from w and 165 ft from s line. Jno. O'Neil, Wichita Falls, Rio Bravo 77, 36, S 31, B 5, H&TC sur, 50 ft e of No. 1. Waggoner Refg. Co., Electra, W. T. Waggoner, J. 40, 14, S 25, B 4, H&TC sur, 50 ft e of No. 2; No. 13, 50 ft se of No. 4. Texas Co., Wichita Falls, W. T. Waggoner, No. A368, S 5, B 13, H&TC sur, 1650 ft from n and 800 ft from e line. Lido Oil Co., Wichita Falls, W. T. Waggoner, 12, 1, S 35, B 2, H&TC sur, 150 ft from n and e lines. Fain-McGaha Oil Corp., Wichita Falls, W. T. Waggoner, W, 100, 22, S 32, B 4, H&TC sur, 150 ft from s and w lines; No. 23, 595 ft from n and 585 ft from w line. Empire G. & F. Co., Wichita Falls, W. T. Waggoner, 160, 28B, S 32, B 4, H&TC sur, 1262 ft from s and 205 ft from w line NW¼ of SW¼. Davis Oil Corp., Vernon, W. T. Waggoner, 36, 4, S 35, B 2, H&TC sur, 450 ft from w and 150 ft from s line NE¼ NE¼. L. G. Bradstreet Co., Fort Worth, W. T. Waggoner, 99, 5, S 31, B 4, H&TC sur, 502 ft from n and 1396 ft from e line. W. M. Moore, Wichita Falls, W. T. Waggoner, 80, 1, S 106, B 14, H&TC sur, 150 ft from s and w lines. N. H. Martin, Wichita Falls, N. J. George, 10, 1, B 29, J. Poitevent sur, 111 ft from n and 150 ft from e line.

WEBB COUNTY—C. E. Mayberry, Mirando City, Edington, 40, 9, Blk. 1, 1100 ft from n and 727 ft from e line, Everett Suladie, Mirando City, A. M. Bruni, 40, 1, Sec. 131, 150 ft from s and w lines of NW¼ of SE¼. O. W. Killam, Laredo, A. M. Bruni, 316, 15, S 6, M. Arispe sur, 150 ft from s and w lines of sec.

WHEELER COUNTY — Harry Holmes, Shamrock, Close, 40, 2, S 82, B 23, H&GN sur, 300 ft from n and e lines of SE¼ of SE¼.

ZAPATA COUNTY—Shell Pet. Corp., Houston, E. Lopez, 80, 2, Blk 11, No. 288 sur, 600 ft from n and w lines.

Application of Gasoline Tax Law Questioned

Shreveport.—A suit to determine if gasoline imported from another state into Louisiana is subject to the four cent Louisiana gasoline tax when the gasoline is sold in Louisiana has been filed at Benton, Parish seat of Bossier Parish. The suit was brought by E. A. Conway, state supervisor of public accounts against the Phenix Oil and Gas Company of Bossier City. The suit was brought to recover taxes alleged due for last August and September. Two cars of gasoline were seized in connection with the litigation.

WILDCATS FROM ALL SECTIONS

OKLAHOMA

WOODS COUNTY—T 28n, R 16w, Sec. 14, Peerless et al, Cromwell 1, c sw se, dr 1506 ft.

GRANT COUNTY—T 28n, R 7w, Sec. 27, Gypsy, Bilderback 1, sec, dr 3990 ft. T 28n, R 4w, Sec. 12, Boucher et al, Dedmon 1, swc se, hfw 3105-30 ft, td 3982 ft, reaming.

KAY COUNTY—T 28n, R 1w, Sec. 24, De-Camp & Lancer, sec ne, Wilcox 3456-3478 ft, hfw, sd 3860 ft.

WOODS COUNTY—T 27n, R 16w, Sec. 33, Sinclair, Share 1, c ne sw, show oil 5405-15 ft, water at 5460-65 ft, dr 5560 ft.

ALFALFA COUNTY—T 27n, R 11w, Sec. 12, Smith Bros., Forbes 1, nec se nw nw, sd 4420 ft.

GRANT COUNTY—T 27n, R 5w, Sec. 20, J. V. Bailey, Brewer 1, c sw se, r.o.g. sd.

HARPER COUNTY—T 26n, R 24w, Sec. 14, Sinclair, Howell 1, c sw sw, cored sand 5020-25 ft, pipe froze 6161, td.

GRANT COUNTY—T 26n, R 3w, Sec. 23, Otstot Dev. Co., Tapor 1, nec se, dr 1045 ft.

KAY COUNTY—T 26n, R 2e, Sec. 32, J. A. Vincent et al, McNeal 1, nwc ne, sd 2795 ft.

WOODS COUNTY—T 25n, R 15w, Sec. 10, Bu Vi Bar et al, 1, sec sw, dr 5992 ft.

GRANT COUNTY—T 25n, R 4w, Sec. 22, Cowden, Vollmer 1, nec se ne sw, sd 5640 ft, tools in hole.

WOODWARD COUNTY — T 24n, R 17w, Sec. 32, Otstot, Simmons 1, sec sd 1500 ft.

WOODS COUNTY—T 24n, R 13w, Sec. 18, Miller et al, Copenhaver 1, nwc, spudded and sd.

ALFALFA COUNTY—T 24n, R 11w, Sec. 14, Washoma, Acre 1, swc ne, dr 4560 ft.

GARFIELD COUNTY—T 24n, R 6w, Sec. 9, Pulse & Beamer, White 1, sec nw, hfw 4730-4800 ft, ur 5-in. 5556 ft, td.

WOODWARD COUNTY — T 23n, R 20w, Sec. 9, Harris & Haun, Wyatt 1, ce se, hfw 4390-4400 ft, dr 4950 ft. T 23n, R 17w, Sec. 2, John Farrand, Belva 2, csl sw se, sd 1387 ft.

NOBLE COUNTY—T 22n, R 1e, Sec. 22, Peerless et al, Wentz 1, nwc sw, dr 2400 ft.

WOODWARD COUNTY — T 21n, R 21w, Sec. 25, Sharon, Elmore 1, swc, rig blown down, td 3025 ft. T 21n, R 19w, Sec. 15, Burgoyne Bros., Merklin 1, swc se ne, sd 1910 ft.

MAJOR COUNTY—T 20n, R 14w, Sec. 23, Keller et al, Horton 1, c ne ne, spudded and sd.

GARFIELD COUNTY—T 20n, R 4w, Sec. 10, Continental et al, Brown 1, c n2 sw, rig up.

BLAINE COUNTY—T 19n, R 10w, Sec. 13, Washoma, Phillips 1, c nw sw, sd 2945 ft.

LOGAN COUNTY—T 18n, R 3w, Sec. 33, Haley & Consolidated Drlg. Co., Quier 1, sec sw, sd 3970 ft.

KINGFISHER COUNTY — T 16n, R 7w, Sec. 6, Galt-Brown, Boch 1, c nw se, (owdd), sd 6022 ft.

CANADIAN COUNTY—T 14n, R 6w, Sec. 9, A. D. Spears et al, Piatt 1, swc nw, sd 3223 ft.

OKLAHOMA COUNTY—T 13n, R 1w, Sec. 13, T. B. Slick, Martin 1, c nw nw, cored 6055-65 ft, no show.

TEXAS COUNTY—T 1n, R 15 E.C.M., Sec. 25, Skaer et al, Hitch 1, nwc sd 250 ft.

PAYNE COUNTY—T 18n, R 6e, Sec. 4, Consolidated Drlg. Co., Freeman 1, swc, Wilcox 3687-98 ft, dry and abn.

LINCOLN COUNTY—T 17n, R 5e, Sec. 7, Mote & Wheeler, McLaughlin 1, sec nw nw, dr 3590 ft. Sec. 16, Jilson & Kemp, School Land 1, sec sw, rig. T 16n, R 5e, Sec. 1, Flynn-Morgan Oil Co., Johnson 1, sw cne, dr 2510 ft. T 13n, R 6e, Sec. 21, Shell Pharris 1, nec nw, dr 3100 ft. T 12n, R 3e, Sec. 29, Phillips, Roberson 1, sec nw, 8-inch at 5100 ft.

OKFUSKEE COUNTY—T 12n, R 10e, Sec. 5, Sheppard et al Sheperd 1, sec nw sw, 5-inch at 3525 ft, c.o. T 12n, R 9e, Sec. 36, Henry Oil Co., Harjo 1, nwc, c.o. 2725 ft.

McINTOSH COUNTY—T 10n, R 13e, Sec. 6, Spring Valley Oil Co., Carr 1, sec ne nw, M gas 2390-2429 ft, td 3251 ft, dry and abn. T 10n, R 14e, Sec. 31, Jennings Bros., Crabtree 1, sec ne sw, dr 1200 ft.

PITTSBURG COUNTY—T 9n, R 16e, Sec. 32, Pattison et al, McDuff 1, swc nw se, show oil 5446-70 ft, 1M gas 5464-80 ft, 5560 ft, fsh.

HASKELL COUNTY—T 9n, R 18e, Sec. 10, Marion Oil Co., Sanders 1, nwc ne sw, 2M gas at 1800 ft, sd 2692 ft.

LATIMER COUNTY—T 5n, R 18e, Sec. 15, Limestone O&G Co., Murray 1, swc, 1½M gas 2518-30 ft, td 4050 ft, pb to 2518-2530 ft, 5M gas.

OKLAHOMA COUNTY—T 12n, R 2w, Sec. 30, Magnolia, Noble 1, nw sw sw, show oil and gas 6362 ft, dr 6666 ft. T 11n, R 2w, Sec. 3, Ryan Consolidated Oil Co., Lawton 1, nec nw, dr 1200 ft.

OKFUSKEE COUNTY—T 11n, R 7e, Sec. 6, Superior, Carolina 1, sec, td 4901 ft, hfw, dry and abn.

SEMINOLE COUNTY—T 10n, R 5e, Sec. 28, McCulloch et al, Luckett 1, nec nw hfw, 4898-4904 ft, dry and abn.

HUGHES COUNTY—T 9n, R 12e, Sec. 29, Canady et al, Kanard 1, swc nw nw, sd 1275 ft.

POTTAWATOMIE COUNTY—T 8n, R 4e, Sec. 3, Superior et al, Bayliss 1, swc nw, 8-in at 4100 ft. Sec. 9, Keister & Manning, Tibbes 1, nec sw, 8-inch at 4240 ft.

HUGHES COUNTY—T 8n, R 12e, Sec. 30, McGee Bros., Bird 1, sw se nw, dr 3446 ft, 1M gas.

CLEVELAND COUNTY—T 7n, R 1w, Sec. 15, Sooner, Vandeveer 1, ne nw sw, sd 3120 ft.

POTTAWATOMIE COUNTY—T 7n, R 3e, Sec. 15, Amerada et al, Vineyard 1, nw ne ne, td 5093 ft, hfw, pb to 4340-4456 ft, shot 120 qts, flow 180 bbls.

CLEVELAND COUNTY—T 6n, R 1e, Sec. 20, Brownfield et al, Corbett 1, sec nw, rig.

POTTAWATOMIE COUNTY—T 6n, R 3e, Sec. 36, Sykes et al, Cook 1, swc nw ne, rig.

SEMINOLE COUNTY—T 6n, R 6e, Sec. 8, E. L. Harris, Harjoche 1, se ne se, td 4052 ft, pb to 2910 ft, flowing 10 bbls per hour.

HUGHES COUNTY—T 6n, R 8e, Sec. 23, McCulloch et al, Moses 1, nw sw ne, dr 4365 ft.

POTTAWATOMIE COUNTY—T 5n, R 5e, Sec. 4, I.T.I.O, Philpot 1, nwc, set 5-inch 4145 ft.

HUGHES COUNTY—T 5n, R 9e, Sec. 17, E. W. Whitney, Huddleston 1, sec sw, fsh job, 3935 ft, sd. T 5n, R 10e, Sec. 30, Erwin et al, Jones 1, sec ne, lcn. T 5n, R 11e, Sec. 15, J. J. Wright, Roberts 1, sec sw, r.u.s.t.

PITTSBURG COUNTY—T 4n, R 12e, Sec. 32, Kerr & Key, Tall 1, c nw nw, c.o. 3100 ft.

ROGER MILLS COUNTY—T 12n, R 24w, Sec. 23, Bucy & Stone, Williams 1, c sw, rig. T 11n, R 26w, Sec. 4, L. C. Hivick, Davis 1, c nw ne, sd 1850 ft.

CANADIAN COUNTY—T 10n, R 6w, Sec. 1, J. V. Bailey, Robinson 1, c ne nw, sd 150 ft.

BECKHAM COUNTY—T 8n, R 22w, Sec. 30, Carson et al, Denby 1, sw se ne, show gas 1249 ft, dr 1670 ft.

GREER COUNTY—T 6n, R 24w, Sec. 17, I.T.I.O. et al, Fee 1, c ne, td 1902 ft, reaming at 1880 ft.

CADDO COUNTY—T 6n, R 13w, Sec. 8, Abernathy &Brown, Horton 1, sec, dr 572 ft. T 6n, R 10w, Sec. 26, English Drlg., Garner 1, nwc nw, sd 3465 ft.

HARMON COUNTY—T 4n, R 26w, Sec. 8, S. M. Stauffer, Caftleman 1, nwc se, sd 625 ft.

JEFFERSON COUNTY—T 7s, R 7w, Sec. 2, Superior, NeSmith 1, sw se se, td 3914 ft, dry and abn.

McCLAIN COUNTY—T 5n, R 3e, Sec. 16, Homaokla Oil Co., Newson 1, se ne ne, hfw 2956-66 ft, sd 3485 ft.

JOHNSTON COUNTY—T 1s, R 7e, Sec. 29, Smith & Kinsley, Lane 1, sec nw, sd 2250 ft.

CARTER COUNTY—T 3s, R 4w, Sec. 23, J. A. Porter et al, Robinson 1, sec nw, sd 2513 ft. T 4s, R 2e, Sec. 32, Tex-Okla Drlg. Co., Anderson 1, sec ne se, dr 1500 ft.

MARSHALL COUNTY—T 5s, R 5e, Sec. 17, Jordan et al, Penn Mutual Life Ins. 1, nwc ne se, sd 700 ft.

BRYAN COUNTY— T 9s, R 9e, Sec. 36, W. C. Endicott, et al, Craige 1, c nw ne, sd 1890 ft.

WOODWARD COUNTY — T 23n, R 17w, Sec. 23, Prairie & Transcontinental, Wilbur 1, nec, dr 5800 ft.

CLEVELAND COUNTY — T 10n, R 2w, Sec. 8, Prairie, Slick & Phillips, Sudik 1, c ne ne, dr 7426 ft.

ABBREVIATIONS

NOTE—The following is the explanation of abbreviations, signs, etc., used in completion and wildcat reports; *—dry hole, abandoned well; ‡—salt water; †—junked and abandoned; ¶—million feet of gas; abn—abandoned; bbls—barrels; b.s.—basic sediment; cas casing; co—cleaning out; dk—derrick; dr—drilling; fsh—fishing; ft—feet; in-inches; lcn—location; m—milling; n, s, e, w—north, south, east, west; r—reaming; sd—shut down; sdtr—sidetracking; sp—spudding; sr—straight reaming; std—standardizing; sw—salt water; td—total depth; ur—underreaming; wo—workover; wosr—waiting on standard rig.

KANSAS

STEVENS COUNTY—Trees Oil Co.'s Candy 1, sw ne sw 3-35-38w, sd, 2250 ft.

SUMNER COUNTY—Davidson et al's Strickland 1, sw se, 12-35-1w, rig.

STEVENS COUNTY—White & Chenney's Unknown 1, nec 11-34-42w, rog. W. Sidwell et al's Kelly 1, sw ne 16-34-38w, sd 1600 ft.

BARBER COUNTY—Skelly's Temple Ranch 1, sw ne 13-34-15w, sd 4410 ft.

HARPER COUNTY—Slick's Miller 1, sec 13-34-8w, Wilcox 5268-74 ft, hfw, sd 5300 ft.

SUMNER COUNTY—Morgan & Carey Hawkins 1, sw se 9-34-1e, dr 2900 ft, corrected.

STEVENS COUNTY—McKenna et al, Unknown 1, c nw nw 29-33-36w, dr 1350 ft.

SUMNER COUNTY—Shell's Armstrong 1, nec 12-33-1e, ur 6-in cas, 3335 ft.

BARBER COUNTY—Robertson et al's Powell 1, c se se, 11-32-10w, sd 3260 ft.

HARPER COUNTY—Slick's Thompson 1, nwc 10-32-6w, dr 5100 ft.

COWLEY COUNTY—Shawver et al's Oldham 1, nw se 23-32-3e, sd 2375 ft.

HARPER COUNTY—Beeler et al's Bear 1, c nw 21-31-6w, spd and sd.

SUMNER COUNTY—Kingwood's Stayton 1, c ne 18-31-2w, dr 2925 ft. Slick, Pryor & Lockhart's Peasel 1, nwc 33-31-1w, hfw, 2675-2710 ft, dr 2910 ft.

COWLEY COUNTY—Milton & Mead Bros. Tatum 1, se sw 11-31-6e, sd 1325 ft. Roth & Farrount's Thompson 1, ne se 31-31-6e, dr 1200 ft.

BARBER COUNTY—Allison & Fitzwilliam's Kimberg 1, nw se 2-30-12w, lcn, abn.

SUMNER COUNTY—Hatfield et al's Dauber 1, nec 18-30-1w, spd and sd. Lario et al's Osborne 1, ne se 20-30-1w, dr 3200 ft, lime.

COWLEY COUNTY—A. M. Landon's Wheeler 1, c sw nw se 24-30-4e, dr 1975 ft. Prairie & Leighty's Ball 1, sw se 4-30-5e, dr 860 ft.

ELK COUNTY—Empire & Arkansas Fuel's Record 1, c sw se se 32-30-10e, ru.

PRATT COUNTY—Jones & O'Haver Lunt 1, csw nw 15-28-14w, sd 4550 ft.

KINGMAN COUNTY—D. P. Fleeger's Ashbraft 1, 16-28-7w, dr 3498 ft.

SEDGWICK COUNTY—Marland & Amerada's Sensroth 1, nw c 25-28-4w, hiw 3775-3815 ft., ur 5-in cas 3820 ft. Wilson et al's Ottaway 1, sw nw 16-28-2w, rig. McCulloch's Buckles 1, nw se 3-28-1w, dr 1115 ft. Moore et al's Stewart 1, c ne se nw 18-28-1w, dr 2635 ft. La Font et al's Carlton Bros. 1, c se se nw 24-28-1e, sd 1685 ft.

BUTLER COUNTY—Stroub-Dutton et al's Kebby 1, se sw sw 12-28-3e, ur 12-in cas, 1170 ft.

FORD COUNTY—McNabb et al's Unknown 1, c se 26-27-22w, sd 400 ft.

KINGMAN COUNTY—White Eagle et al's Lorenz 1, c ne sw se 25-27-5w, dr 3410 ft.

BUTLER COUNTY—Martin et al's Flanigan

1, c sw se sw 29-27-3e, dr 400 ft. Lario's Hill 1, sw se 7-27-4e, dr 1000 ft.

GREENWOOD COUNTY—F. Konkay et al's Rock 1, ne nw ne 7-27-12e, sp and sd.

PRATT COUNTY—Skelly's Johnson 1, ne sw 21-26-17w, spd. Wilson's Unknown 1, sw nw 7-26-15w, ur 12-in cas, 1100 ft. O'Haver & Jones' Careke 1, c ne sw 7-26-14w, sd 1445 ft.

RENO COUNTY—Wilson et al's McPheeters 1, c s½ nw 22-26-8w, dr 2465 ft. Austin Drlg. Co.'s Strickey 1, swc nw 12-26-5w, hfw 3998-4018 ft. D. & A.

SEDGWICK COUNTY—Travender et al's McLean 1, se sw se 23-26-1w, rig. Burnett's Davidson 1, c nw nw sw 27-26-1e, sd 3358 ft. Wentz' Alliston 1, ne nw 24-26-2e, Viola 3194-3205 ft., hfw, sd 3220 ft. Sinclair's Johnson 1, nec 16-26-3e, set 5-in cas 3217 ft.

BUTLER COUNTY—Lario's Miller 1, ne se ne 36-26-3e, set 10-in cas 1630 ft.

HODGEMAN COUNTY—Swain et al's Kenthorne 1, c nw 21-25-24w, sd 390 ft.

EDWARDS COUNTY — Dixie-Amerada's McCarty 1, sw 22-25-17w, dr 235 ft. Barnsdall's McCarty 1, nw ne 31-25-17w, rig.

SEDGWICK COUNTY—Empire's Biltz 1, ne nw 36-25-4w, dr 3363 ft.

RENO COUNTY—Skelly, Birkett 1, ne sw 30-24-7w, base lime 3920 ft, dr 3930 ft.

HARVEY COUNTY—Independent & Reserve's Moulds 1, c ne 7-24-1w, dr 3260 ft. Jolly & Ogg's Randall 1, nec 11-24-1w, sd 3444 ft. E. W. Marland's Neiman 1, c ne se ne 8-24-3e, sd 1540 ft. Walton's Weiman 1, c se sw 13-24-2e, dr 3108 ft.

STAFFORD COUNTY—Gibson et al's Mueller 1, c sw 11-23-14w, dr 937 ft.

HARVEY COUNTY—Liggett's Regier 1, c se nw se 2-23-2w, ur 8-in cas, 2880 ft. McCullough's Prouty 1, nw sw 3-23-1w, dr 2703 ft. Jolly & Ogg's Hupp 1, se ne 22-23-1w, sd 3220 ft. Margaret Gay Oil Company's Grouse 1, nw ne nw 29-23-1w, sd 3360 ft.

BUTLER COUNTY—Valley Osage's Sirs 1, sec 34-23-3e, dr 2600 ft.

COFFEY COUNTY—Frank Young's Hendens 1, se ne 11-23-14e, td 1625 ft. D. & A. Shaifer & Howell's Levering 1, csl se 12-23-14e, dr 560 ft.

HODGEMAN COUNTY—Phillips' Housman 1, c nw ne 30-22-22w, dr 4250 ft.

RENO COUNTY—Witt et al's Olsen 1, se nw 14-22-6w, fsh 2010 ft.

HARVEY COUNTY—Superior's Reiger 1, se nw 11-22-3w, dr 560 ft.

RENO COUNTY—Burghers' Fair 1, c se ne ne 14-21-10w, sd 1200 ft. Boucher et al's Boy 1, swc 16-21-10w, run 15-in cas, 630 ft.

McPHERSON COUNTY—McCulloch's Cornelius 1, swc 7-21-4w, dr 2760 ft. Harry Skelly et al's Neufeldt 1, se ne 19-21-3w, lcn. McPherson's Fisk 1, sw ne ne 15-21-2w, co, ur 8-in cas, 2955 ft. Helmerick & Payne's Klassin 1, se ne ne 14-21-1w, hfw 3560-62 ft. D. & A.

RUSH COUNTY—Prairie's Black 1, sw ne ne 11-20-18w, dr 335 ft.

RICE COUNTY—Miller & Detrick's Shumway 1, c sw 2-20-9w, show oil, hfw, 2925-85 ft, sd 3100 ft. McCulloch's Williams 1, c ne 35-20-8w, ur and sd. Derby's Johnson 1, c nw ne se 24-20-6w, td 2240 ft, skidding rig.

McPHERSON COUNTY—Millmack's Decker 1, nwc 11-20-3w, fsh 1500 ft. Reynolds Kochn 1, ne se ne 15-20-2w, dr 2600 ft. Lario's Diener 1, se sw 10-20-1w, td 3455 ft, hfw, D. & A.

LYON COUNTY—Harry Mortlock et al's Diebolt 1, nw ne 24-20-11e, dr 1615 ft.

RUSH COUNTY—Danciger O. & R. Co.'s Pinonka 1, c ne sw ne 17-19-17w, sd 4044 ft. Danciger's Bell 1, c sw 16-19-8w, dr 290 ft.

RICE COUNTY—Millmack's Cain 1, se 29-19-7w, td 3245 ft, run 6-in cas. McBride's Green 1, c nw 33-19-6w, rog.

McPHERSON COUNTY—Trancontinental's Algers 1, ne sw 1-19-5w, dr 3467 ft, corrected. Perry et al's Wade 1, c se 20-19-4w, dr 3840 ft.

MARION COUNTY—Marshall's Higgins 1, nec 33-19-5e, rig.

LANE COUNTY—Robinson et al's Dickerson 1, swc nw se 11-18-27w, set 8-in cas 2625 ft.

NESS COUNTY—Continental's Moses 1, ne se 7-18-25w, swb 220 bbls, 4428-30 ft.

RUSH COUNTY — Milmack's Mohr 1, c nw 11-18-16w, spd and sd.

RICE COUNTY—Tatlock et al's Ploog 1, c sw se 33-18-9w.

McPHERSON COUNTY—McPherson Oil Dev. Co.'s Sorenson 1, c se 23-18-2w, dr 2892 ft.

CHASE COUNTY—E. W. Marland's Altenmus 1, se ne 33-18-8e, dr 900 ft.

BARTON COUNTY—Slick et al's Sweeney 1, sw ne 23-17-11w, dr 1285 ft.

ELLSWORTH COUNTY—Tatlock et al's Sacken 1, c sw se 25-17-9w, sd 675 ft.

RICE COUNTY—Texas' Sherman 1, ne sw 16-17-6w, sd 3725 ft.

McPHERSON COUNTY—Dixie's Johnson 1, swc 20-17-3w, ru.

MARION COUNTY—White Eagle et al's Ucker 1, ne nw 24-17-2e, dr 2445 ft. American O. & R. Urie 1, sw nw 10-17-3e, hfw 3100-05 ft, D. & A.

LYON COUNTY—Gordon & Stats' Proche 1, c ne se nw 16-17-10e, dr 670 ft.

LANE COUNTY—Blankenship Pet. Co.'s Shaeffer 1, nec ne 24-16-28w, sp and sd.

BARTON COUNTY — Allison & Fitzwilliam's Brodie 1, nec 19-16-12w, dr 2160 ft. Prairie's Davidson 1, nw se 4-16-11w, lcn.

SALINE COUNTY—Dixie's Thorstenberg 1, nw ne 10-16-3w, dr 3598 ft.

DICKINSON COUNTY—Prairie's Lackard 1, (now Rumold) c nw sw ne 12-16-2e, rig. Hiatt & Durham, Went 1, nwc 17-16-2e, spd.

CHASE COUNTY—Arrow O. & G. Kinkle 1-A, c nw ne 8-18-7e, spd.

TREGO COUNTY—Prairie's Kutina 1, c ne sw ne 29-15-21w, fsh 3325 ft.

ELLIS COUNTY—Rush Oil Co.'s Gatewood 1, nw 4-15-20w, fsh 2555 ft.

ELLSWORTH COUNTY — Templeman's Lanbangagen 1, c sw 20-15-5w, ur 6-in cas, 3268 ft, hfw.

SALINE COUNTY—Austin's Olsen 1, c nw sw se, 10-15-4w, sd 3420 ft.

DICKINSON COUNTY—Cress et al's Sandon 1, nec 12-15-2e, rog.

TREGO COUNTY—Dixie & Amerada's Reitmeyers 1, c ne ne 19-14-21w, sd 850 ft. P. & R. Kingsley 1, c se nw nw 24-14-21w, dr 1545 ft.

RUSSELL COUNTY—Midwest Exploration's Benso 1, swc 4-14-15w, 900 ft. oil, 3064-72 ft, sd.

ELLIS COUNTY—Streeter & Stearns Laiker 1, sw ne 26-13-20w, dr 1200 ft.

RUSSELL COUNTY—Cress & Back's Unknown 1, cw½ ne nw 20-13-4w, rog.

SALINE COUNTY—Twin Moulds, Hughes 1, cw½ ne nw 20-13-4w, sd 700 ft.

DICKINSON COUNTY—Krueger et al's Diche 1, c nw ne ne 17-13-4e, dr 2035 ft.

TREGO COUNTY—Phillips Spitz 1, se c 24-12-25w, ur 8-in cas 3365 ft. Mid-Kansas' ridgway 1, ne sw 28-12-21w, hfw 3968-70 ft, sd. Day's Guyler 1, c sw ne ne 36-12-21w, sd and spd.

SHAWNEE COUNTY—Jenkins & Scott Haden 1, ne se 8-12-14e, sd 750 ft. Jenkins & Scott Haden 1, se nw 10-12-17e, dr 550 ft.

TREGO COUNTY—Day's Unknown 1, c ne nw nw 2-11-21w, sd 3175 ft.

ELLIS COUNTY—Byren's et al's Fisher 1, nw se 4-11-20w, sd 1000 ft.

OTTAWA COUNTY—Derby's Niemueller 1, c nw se 9-10-3e, dr 2835 ft.

SHAWNEE COUNTY—Jenkins & Scott Unknown 1, nw ne 28-10-15e, rig.

JEFFERSON COUNTY—Wichita Oil Co.'s Simpson 1, nw sw sw 10-10-17e, ru and sd.

ROCKS COUNTY — Central Commercial's Toxa 1, ne sw se 22-9-17w, fsh 2523 ft. Krueger et al's Steis 1, c nw se sw 12-9-16w, spd and sd.

GRAHAM COUNTY—Gulf Coast's Johnson 1, swc sw se 27-8-25w, sd 4232 ft. Naylor et el's St. Johns 1-c, se 27-8-25w, ru.

CLAY COUNTY—Chrisler's Tivler 1, swc 19-8-3e, spd and sd. Arkansas Fuel's Martin 1, se ne sw 24-8-4e, dr 1710 ft.

SHERMAN COUNTY—A. D. Hansen et al's Murray 1, ne se nw 22-7-40w, sd 3065 ft.

GRAHAM COUNTY—Madolin's Unknown 1, c se sw sw, 27-7-26w, spd and sd.

OSBORNE COUNTY—Phillips' Grieve 1, nw se ne 6-7-12w, ur 6-in cas, 3570 ft.

RILEY COUNTY — Derby-Skow Bros.' Lundstrum 1, ne 32-7-5e, sd 2270 ft.

OSBORNE COUNTY — Mid-Kansas' Boyce 1, se nw 8-6-13w, dr 3937 ft.

RILEY COUNTY—Gray et al's Smith 1, ne se 30-6-6e, sd 1970 ft.

SMITH COUNTY—Phillips' Clydevale 1, se nw 23-6-14w, dr 3315 ft.

NORTON COUNTY—A. L. Richard's Colby 1, c sw 17-4-21w, rog.

WASHINGTON COUNTY—McCool & Vicent's Linn 1, nw ne 27-4-3e, dr 3075 ft.

NORTHERN CALIFORNIA

Completions

Company, Well and Location	Initial Production Bbls.	Depth
CARPENTERIA—		
Continental's Bailard 1	*	4535
POINT CONCEPCION—		
Western Gulf's Hollister 2	*	3200

KERN COUNTY

BAKERSFIELD—Western Gulf's KCL-A3, 6-30-28, pulling 4¾-inch cas, may abn, td 4444 ft.

BELRIDGE—J. H. Kennedy's Belridge 1, 5-29-21, co 660 ft. Keystone Pet. Corp.'s No. 1, 18-28-22, dr hard shale 2085 ft. K. C. Wallace's 1, 32-29-21, dr shale 2414 ft.

BUTTONWILLOW — Milham Exploration's Kern 6, 8-28-23, re-dr 4690 ft.

EDISON—Elmer Oil Co.'s 1, 15-30-30, dr gray sand 3766 ft. The Texas Co.'s Newman 1, 23-29-29, dr shale 3128 ft.

ELK HILLS—Standard's KCL-27, 31-30-25, dr hard shale 8122 ft.

GOULD HILLS—Bomka and Ball's Larson 1, 12-29-20, co 2400 ft. Casa Mira Oil Co.'s Theta 1, 20-28-20, dr shale and sand 2115 ft.

LERDO—Shell's An-1, 5-29-27, coring 6050 ft.

McKITTRICK—Ozena Oil Co.'s Kendon 2, 27-29-21, dr gray sand 2490 ft. Ohio's M. and M. 1, rigging up rotary. H. L. Whiston's Wisecarver 1, 30-30-22, dr shale 1566 ft.

MIDWAY—Shell's Perris 1-A, 15-32-23, dr shale 7275 ft. Standard's Mascot 1, 26-32-23, dr brown shale 7666 ft. Texas Co.'s Gore 4, dr hard sand 2250 ft.

POSO CREEK—Agey Pet. Co.'s Agey 1, 28-27-27, dr shale 1909 ft.

ROSEDALE—General Pet.'s KCL-1, 13-29-26, dr shale 4555 ft.

ROUND MOUNTAIN—Sunnyside Oil Co.'s Smith 1, 17-29-29, dr gray sand 2150 ft.

SAN EMIDIO—Evelyn Eubanks' 1, se¼ 11-10-24, new lcn. Willard Mallery's Harvey 1, 9-10-23, dr gray sand 275 ft. Union's KCL-2, re-dr 3650 ft.

SHALE HILLS—Day Oil Co.'s 1-A, 1-27-18, 8¼-inch cas re-cmt 900 ft, td 1505 ft. Doyle Pet. Co.'s 1, 14-27-18, new lcn.

TEMBLOR HILLS—Shell's Gonyer 1, 32-32-23, lcn. Union's Williams 1, 22-32-23, dr brown shale 2900 ft.

SANTA BARBARA COUNTY

ARLIGHT—Standard's Sudden 1, 35-6-26, dr gray sand 2175 ft.

ARROYA PARIDA—Shell's Fithian 1, 18-4-25, dr shale 400 ft.

BUELL—Union's Buell 1, dr shale 2255 ft.

CASITAS PASS—Standard's Shepherd 1, 20-4-25, new lcn.

CASMALIA—Wildcat Oil & Gas Co.'s Donovan 1, 20-10-35, dr gas sand 3727 ft.

GIBRALTAR — Pacific Western's Dam 1, 14-5-27, dr, depth not reported.

GOLETA—General Pet.'s More 2, dr out plug at 1675 ft, td 2720 ft. Standard's Edwards 2, dr gray sand 300 ft. L. B. Tannehill's Storke 1, dr gray sand 3800 ft.

LOMPOC—Gaviota Oil Co.'s Marretti 1, 9-7-35, dr shale 2650 ft.

ORELLA—Oakburn Oil Co.'s 170-1, driving piles for pier.

POINT CONCEPCION—Standard's Gerber 1, dr gray sand 2650 ft.

SAN MARCOS—California Oil Properties' Fortine 1, 3-4-28, surveying hole, td 3210 ft.

SANTA BARBARA—Standard's S. B. County 1, 11-4-28, dr shale 1040 ft.

SANTA MARIA—O. C. Field Gasoline Co.'s Bradley 1, dr shale 4655 ft. Shell's Careaga 1, 20-inch cas cemt 650 ft.

VENTURA COUNTY

FILLMORE—Frank Oil Co.'s 1, 35-4-20, repairing rig, td 2078 ft.

CONEJO—Triunfo Oil Co.'s 1, dr shale 1573 ft.

LOCKWOOD—Lockwood Valley Oil Co.'s 1, 28-8-21, dr shale 585 ft.

OJAI — California-Ventura Oil Co.'s La Crosse 1, dr shale 5533 ft. Continental's Sulphur Mountain 3, 21-4-22, dr shale 5416 ft. Gilmore-Bishop Pet. Co.'s Pirie 1, dr shale 660 ft. M. K. T. Oil Co.'s 1, 13-4-22, dr shale 422 ft.

PIRU—Bolsa Chica Oil Co.'s Snow 1-A, 4-4-18, dr shale, 1212 ft.

RINCON—Associated's Snowball 1, 19-4-24, lcn.

SANTA PAULA—W. W. Bryant's Anlauf 4,

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21-4-21, dr shale 200 ft. San Pedro-Pt. Fermin Syn.'s Kellerman 1, 13-4-21, re-dr 1212 ft. Wardman and Jones' Anlauf 1-A, making prod test, td 1360 ft.

SATICOY—Standard's Citrus 5, 10-2-22, cmt drilled out to 7850 ft, td 8190 ft.

MISCELLANEOUS

FRESNO COUNTY—Petroleum Securities' Ladd 1, 28-20-16, making prod. test, td 6830 ft. Western Gulf's No. 1, 26-15-12, new lcn. John Knudsen's No. 2, 14-21-14, dr shale, 640 ft. Rio Grande Oil Co.'s M-1, 14-13-17, dr blue shale, 3350 ft.

KINGS COUNTY—H. B. Porter's 1, 9-24-17, dr shale, 2313 ft.

MADERA COUNTY—George F. Getty's Bill 1, 18-13-16, dr shale, 1728 ft.

MENDOCINO COUNTY—Twin State Oil Co.'s Soldani 1, 14-12-17, dr hard sand, 1100 ft.

MONTEREY COUNTY—Standard's Piedmont 1, 23-22-7, dr shale, 2450 ft. Union's Paige 1, 8-22-8, dr shale 2440 ft. Shell's Dudley 1, 15-22-9, coring 5016 ft.

SAN JOAQUIN COUNTY—Barnhart Oil Trust's Gilbert 1, 3-2-10, dr shale, 2218 ft.

SAN LUIS OBISPO COUNTY—Panorama Oil Co.'s Vishu 1, 7-31-21, riping 6¼-in cas, td 4010 ft. Latin-American Oil Co.'s Upton 1, 31-27-15, dr gray sand 3790 ft. Pismo Dome Oil Co.'s Pricco 2-A, 5-31-13, dr shale and hard sand, 900 ft. San Luis Syn.'s 1, 29-31-13, dr 3212 ft. Texas Pacific Coal and Oil Co.'s 1, 25-32-14, dr shale 3860 ft. Union's Chandler 1, 12-32-14, dr tough shale 4870 ft; Russ 1, 34-32-15, dr shale 4165 ft.

TULARE COUNTY—Terra Bella Oil Co.'s Gardiner 1, 35-22-27, rigging up rotary, Terminal Oil Co.'s Brittain 1, 29-20-25, dr gray sand, 3633 ft.

SOUTHERN CALIFORNIA

BELLFLOWER — Clearwater Pet. Co.'s Candler 1, 13-in cas cmt 630 ft.

CALABASAS—J. W. Martin's 1, dr gray sand, 700 ft.

COMPTON—Consolidated Exploration Co.'s No. 1, rigging up rotary.

EL MONTE—Morgan West's Sing 1, dr hard sand, 1288 ft.

FULLERTON—Shell's Bastanchury 1, re-dr 2910 ft. Standard's Bastanchury 1, dr shale, 589 ft.

NEWHALL—Southern California Drilling Co.'s Needham 2, sp. York and Lockhart's No. 1, rigging up rotary.

PIRU—Coastline Oil Co.'s Mazie 1, dr shale 1870 ft. Consolidated Oil Co.'s Hammand 1, dr shale, 300 ft.

POINT HUME—Marblehead Land Co.'s Rindge Ranch 3, dr hard sand, 1650 ft.

POMONA—Pomona Oil Assn.'s 1, running 4½-in cas, td 1210 ft.

PUENTE—Brea Canyon Dev. Co.'s Bierd 1, dr shale, 955 ft. R. C. Rucker's Grazide 1, dr shale, 2717 ft. State Co.'s Richfield 1, dr hard sand, 2460 ft. Union's Sansinena 1, lcn.

RICHFIELD—Superior's Bennett 1, dr shale, 3650 ft; Davis 1, dr sand, 300 ft.

SEAL BEACH—Continental's Bryant 1, dr shale, 3800 ft. Shell's Alamitos Land Co. 1, co, 1000 ft.

LOS ANGELES—William Diller's 1, 8-3-13, lcn. George Hanners' Stallman 1, dr gray sand, 3069 ft. Law and Law's No. 1, 8-3-13, lcn.

TELEGRAPH CANYON—Union's Rimpau 1, dr shale, 1788 ft.

EAST TORRANCE—Archer Oil Co.'s Watson 1, dr shale, 4100 ft.

VENICE—Ohio Oil Co.'s Gun Club 1, making prod. test, td 6200 ft.

RIVERSIDE COUNTY—Trabuca Oil Co.'s 1, dr hard lime, 4122 ft.

SAN BERNARDINO COUNTY—China-American Oil Co.'s 1, lcn. Mahala Oil and Gas Co.'s 1, swabbing 4010 ft. Keck and Hall's Belyea 1, dr shale, 275 ft. Urmi Oil Co.'s Schuh-Zellers 1, dr shale, 1078 ft.

SAN DIEGO COUNTY — S. S. Turner's Baler 1, dr hard sand 2160 ft.

MOUNTAIN STATES

COLORADO

ADAMS—N. M. Slatt, 27-35-64, carry 12½-in cas at 826 ft.

BENT—Continental, Pipe Springs 1, se 27-27-49, dr 5269 ft.

DELTA—Crawford O. & G. Co., ne 28-15n-1w, stand 350 ft.

DOLORES—Transcontinental, Glade 1, nw 30-41-16, dr 5150 ft.

ELBERT—Belmont Oil Co., Maher 1, sw 4-6s-59w, td 3712 ft.

JACKSON—Midwest, Rich 21X, nw 9-6-9, hole caving, 3355 ft. P. & R. Fuller 1, 2-6-81, run 8¼-in cas at 3134 ft.

JEFFERSON—Ruby Hill O. & G. Co., Braden 1, se 14-4s-69w, dr 3578 ft.

HUERFANO—Parker Club-Kinney Coastal, Fee 1, 4-28-68, to case at 3782 ft.

LAS ANIMAS—Trinidad Dev. Co., Flontz 1, sw 23-32-63, dr 2377 ft.

LARIMER—Standard of Colorado, Hertha 1, 21-4n-69, dr 1720 ft.

LAPLATA—Royal P. & R., Red Mesa 1, 27-33-12, sd 360 ft. Detroit Oil Assn, Olbert 1, sw 9-35-12, ready to resume.

LINCOLN—Kelly Oil Co., State 1, ne 36-14-57, stand 2950 ft.

MESA—Argo Oil Co., Hoel 1, 23-8s-104w, fsg 8¼-in., td 2712 ft.

MOFFAT—McLaughlin et al, Wms. 1, 2-3-91, ur to 4250 ft. McCormick et al, Sales 1, se 28-4n-92, sd at 3150 ft. Vermillion O. & G. Synd. 1, se 23-9n-100w, dr 642 ft. Mtn Fuel Supply Co., Burton Busser 1, 5-11-97, sd. Mtn Fuel Supply Co., L. B. Lasher 1, 25-12-101, sd. Texas Prod Co., Berlin 1, ne 19-12n-100w, prep to deepen from 2055 ft.

MONTEZUMA—Hallet et al., 1, sw 14-36-14, sd 50 ft.

PUEBLO—Beulah Dome Oil Co., Hedland 1, 7-23-67w, dr 920 ft.

RIO BLANCO—White Eagle, Fordham 1A, sw 9-2-96, td 2815 ft. Texas Prod. Co., Potter 1, sw 30-2n-96w, dr 5440 ft.

ROUTT—Ruby Hill O. & G. Co., State 2, nw 17-6n-86w, plug back from 3127 ft.

YUMA—Major Pete, Black Wolf 1A, sw 7-2-43, stand 1535 ft. Phillips, Andrews 1, nw 3-2-42, dr 4355 ft.

WASHINGTON—Donohoe et al., Middlemist 1, se 14-4s-56w, dr 1460 ft.

WELD—Platte Valley Pet Corp., Patterson 1, sw 24-6n-61w, stand 4615 ft.

NEW MEXICO

CHAVES—Warman Oil Trust, 1, ne 27-13-24, dr 530 ft. Cactus Prod. Co., Sullivan 1, 14-10s-26e, dr 1915 ft.

DEBACA—Matador Oil Co., State 1, sw 6-4n-20e, strmng 2685 ft. Pittsburg Oil Co., 1, ne 16-1s-27e, sd 4506 ft. Transcontinental, McWhorter 1, 6-35-22, hole trouble, 4770 ft.

GUADALUPE—Los Angeles-Hollywood Oil Synd., McMullen 1, se 24-5n-16e, may skd.

LEA—Texas Prod. Co., Moberly 1, se 17-26-37, sd 3542 ft. Texas Prod. Co., State 1, 2-21-33, dr 1400 ft. Texas Prod. Co., State 24, ne 2-21-33, sd 1330 ft. Empire Gas & Fuel Co., Closson 1, se 6-22-36, recem. at 3650 ft. Empire Gas & Fuel Co., State 3B, se 5-21s-35e, stand 4050 ft. Empire Gas & Fuel Co., Lindley 1, se 4-25-36, dr 300 ft. Ohio Oil Co., State 1, 9-13-28, dr deeper from 4230 ft. Buell & Hagen, State 1, ne 13-11s-35e, sd 4514 ft. Conoco, State 1, 1-21-33, dr 1175 ft. Conoco, Myers 1, sw 17-21-36e, dr 3785 ft. Conoco, Meyer 1, nw 28-22s-36e, dr 3665 ft. Shell Pet. Corp., Terry 1, ne 22-19-38, td 4015 ft; Thorpe 1, 10-19s-38e, dr 1895 ft. Walker et al, Terry 2, se 10-19s-38e, ready to spud. Humble O. & R. Co., Lindley 24, sw 13-25-36, dr 2891 ft. Rector Oil Co., King 1, sw 27-25-32e, fsh 3232 ft. Magnolia Pet. Co., Lindley 1, ne 26-25-36, fsh 10-in cas. Penn Oil Co., State 1, ne 21-19s-36e, dr 4090 ft. Bordages et al, Hughes 1, 27-19s-38e, casing trouble 4012 ft. Morton et al, State 1, nw 32-11s-38e, dr 2167 ft. Barnsdall Corp., 1, 28-16s-38e, run 12¼-in at 1200 ft. Cranfill & Reynolds, State 2B, 2-21-33, dr 2070 ft .Cranfill & Reynolds, Cushing 1, 23-24-36, dr 2819 ft. Midwest, State 24, sw 10-19s-38e, dr 3000 ft. Midwest, Terry 13, sw 10-19-38, dr 2300 ft. Midwest, Wright 6, sw 14-19-38, location. Cranfill & Reynolds State 3B, 2-21-33, dr 1625 ft. Amerada Pet. Corp., State 1, nw 1-21-33, dr 1465 ft. Snowden & McSweeney, State 1, sw 1-21-33, dr 900 ft. Fisher & Lowrie, State 1, 11-18-36, dr 400 ft.

McKINLEY—F. W. Halsell, Santa Fe 1, 17-19-9, td 2650 ft. San Juan C. & O. Co. 1, se 21-18n-9w, sd 2205 ft. Wms. et al, A. T. S. F. 1, se 19-18n-8w, fsh 1810 ft.

RIO ARRIBA—Berringer et al, Hartman 1, ne 8-29-7, sd 825 ft.

SAN JUAN—Dorothy Oil Co., 29-30-9, dr 1150 ft. Kutz Canon O. & G. Co., Day 1, 20-28-10, dr 1055 ft. Blackrock Oil Co., 4, sw 11-25-13, wait for extension of time, td 1550 ft. Angel Peak Oil Co., Kutz Canon 1, 11-28n-11w, bailer lost. Greathouse et al, Roderick 1, sw 11-22-14, dr 1000 ft. Childers Dr. & Pr. Co., Westwater 2, nw 34-31-18, sd. Reserve Oil Co., Shaffer 2, ne 1-21-14, ur 730 ft., total depth 780 ft.

SAN MIGUEL—Pioneer O. & G. Co., Thunderbird 1, nw 14-15-16, dr 2182 ft. Star Oil Co., Adams 1, ne 25-17-16, dr 3135 ft. Cibola Pet. Co., Gov't 1, nw 19-13n-14e, dr 490 ft. Hershfield Dev. Co., Cabra Springs 1, ne 21-12n-22e, dr 900 ft. Benedict et al, Wilson 2, nw 25-17n-16e, dr 90 ft.

SOCORO—Lockhart & Co., 14-3s-6e, dr 1325 ft.

TORRANCE—Williams et al, Staplin 1, ne 16-8n-10w, dr 1225 ft.

VALANECIA—Rio Puerco Oil Co., N. M.-Ariz. Land Co., 2, ne 13-6-2, wait on pipe, 3145 ft. Acme Oil Co., N. M.-Ariz. Land Co., 1, 26-6-3, dr 4209 ft. Harlan et al, Harlan 1, 5-6n-2e, dr 1475 ft.

WYOMING

BIG HORN—P. & R. 3, 24-56-98, dr 4226 ft. Westland Oil Inc., 24-54-95, straighten crooked hole at 350 ft. Wisconsin Holdings, 10-55-97, dr 600 ft. Cody Petroleum Co., 27-57-96, dr 3360 ft.

CARBON—C. E. Bivens et al, 32-12-92, dr 2300 ft.

FREMONT — Kinney-Coastal, 22-3-1, to do deeper. Texas Prod. Co., State 1, 36-34-95, dr 150 ft. Premier Oil Co., 7-28-93, dr 1100 ft.

HOT SPRINGS—Midwest 8, 6-44-98, co 1700 ft. Ohio, Smith 1, 9-46-99, stand cem, 1600 ft.

LINCOLN—Midwest Grey's River 1, 25-37-117, dr 1717 ft.

PARK—P. & R., Pitchfork 1, 14-48-102, sd 2074 ft. Ohio, Burlington 1, 21-53-101, dr 3144 ft. Resolute Oil Co., 17-27-101, dr 3975 ft. Cody Pet., Danker 1, sw 22-57-98, fsh casing.

SWEETWATER—Mtn. Fuel Suply Co., Tucker 1, 8-13-99, sd 3630 ft. for winter. Mtn. Fuel Supply, Cappers 1, 2-19-104, completed, but no test made. Mtn. Fuel Supply, U. P. L., 13-19-104, co 2180 ft. Mtn. Fuel Supply, Humphreys 2, 10-12-101 and sd for winter.

UINTA—California Co., U. P. 1, 7-17n-119w, dr 4485 ft.

WASHAKIE—Calif. Expl. Co., 31-48-89, straighten crooked hole, 2080 ft.

WESTON—Gose Synd., 28-47-65, trouble land, 4000 ft.

MONTANA

CARBON—Ohio Oil Co., N. P. 2, 11-7s-21e, dr out cement, 3850 ft.

CASCADE—Piegan et al, ne 36-20-3w, rig.

CUSTER—Montana Belle O. & G. Co., 28-8n-45e, dr 4280 ft.

GALLATIN—California Co., Ringling 1, 35-5n-7e, wait for motor parts, 2875 ft.

GARFIELD—Montana Corp., 36-16n-38e, dr 1800 ft.

GLACIER—Wm. O'Haire et al, 4-34-6w, moving in. Cosmos Pet., Hannah 1, sw 22-36-1w, rig.

HILL—Jones Oil Co., Brown's Coulee 1, nw 32-34-14e, dr 1600 ft.

LIBERTY—Square Deal Oil Co., Federal Land Bank 1, sw 1-32-7e, dr 3340 ft. Thompson, Thompson 1, 7-34-4e, dr 2210 ft. Northland O. & G. Co., 32-33-5e, location.

MUSSELSHELL — Minnesota - Flatwillow, Ivanhoe Dome 1, 7-11-31, ready to spud.

PETROLEUM — Minnesota - Flatwillow 2, sw 5-12-25e, ready to dr in at 1495 ft. Minnesota-Flatwillow 3, se 5-12-25, rigged. Oregon-Flatwillow Oil Co., 3-13-26, bldg derrick.

ROSEBUD—Prairie O. & G. Co., 28-10n-38e, spdg 65 ft, and sd. Prairie, N. P. 1, 9-10-39, ur 2210 ft with 6¼-in at 2200 ft. Prairie 3, 26-10-39, ur 8¼-in at 1690 ft.

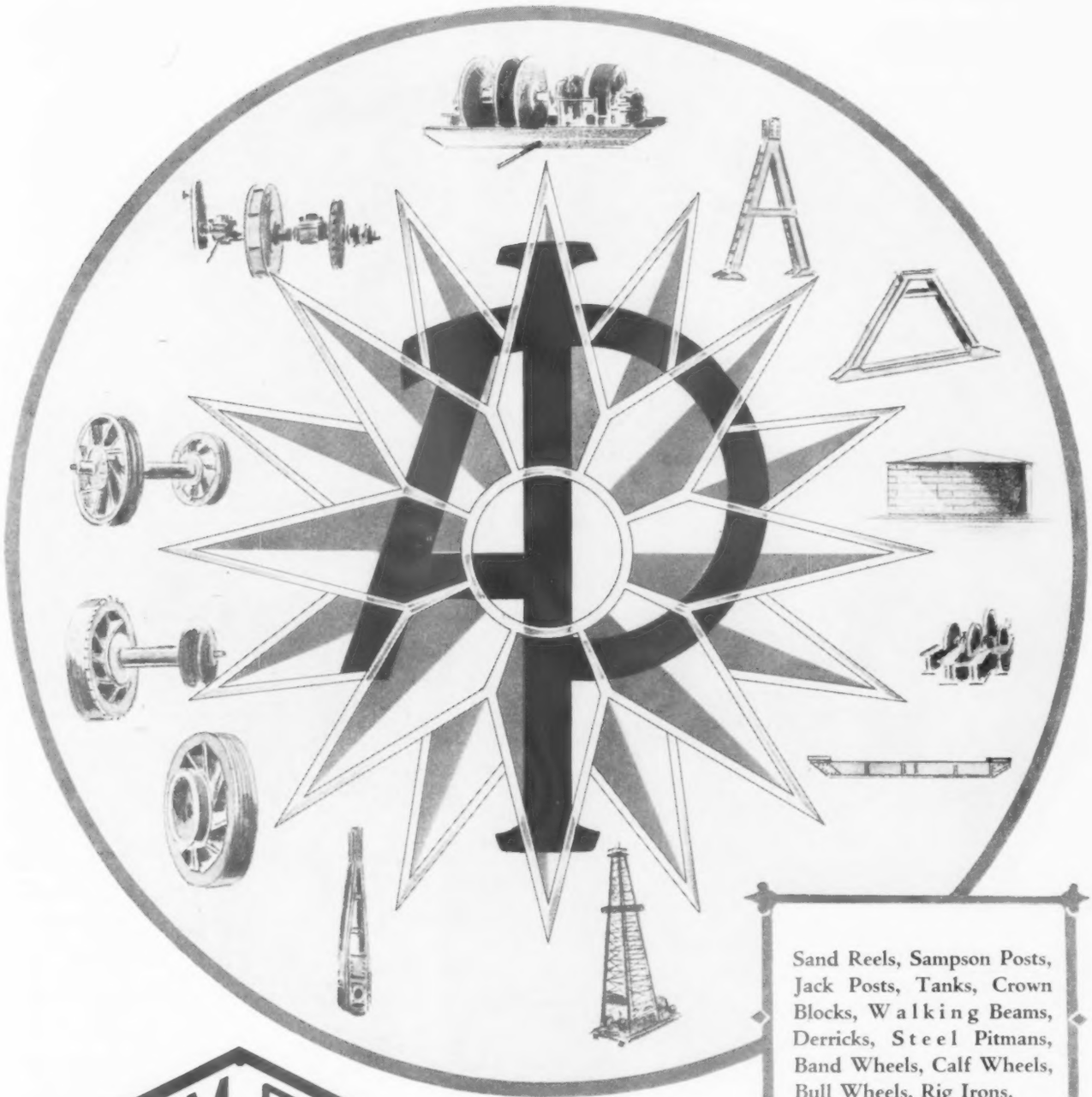
SHERIDAN—Cheyenne O. & G. Co., nw 15-35-53, dr 1600 ft.

SWEETGRASS—Carter Oil Co., Six Shooter 1, 17-3n-19e, abn 4360 ft, hot water 4325-30 ft. Shoshone Cons. Oil Co., 23-2n-15w, dr 5800 ft.

TETON—L. B. O'Neil, 16-25-5w, dr past lost tools, 2305 ft. Mitchener et al, Rondas 1, 9-23-1w, show at 1450 ft, td 1557 ft, will drill deeper. Rocky Mtn. O. & G. Co., Salmond 1, ne 4-23-8w, dr 875 ft. Earl Oil Corp., 22-22-8w, crooked hole. Andover Oil Co., Carlson 1, ne 22-22-8w, dr 150 ft.

TOOLE—Monalta Oil Co., Ltd., Buckley 1, se 1-37-4w, dr up iron 2120 ft. Anaconda Pet. Co., ne 19-36-2e, sd 1635 ft. Mahan et al, Lee 1, 10-31-1w, try water at 2264 ft. International Roy Hold Co., Pederson 1, sw 21-36-1e, shot to abn 1965 ft. Internatl' Roy. Hold. Co., Henry 1, 26-35-3e, dr 1850 ft. Black Fold Pet. Co., Toole 1, nw 22-36-1e, dr 1350 ft. Roxana Dr. Co., Toole 1, 22-36-1e, change crews, td 1700

On all points of the Compass



Sand Reels, Sampson Posts, Jack Posts, Tanks, Crown Blocks, Walking Beams, Derricks, Steel Pitmans, Band Wheels, Calf Wheels, Bull Wheels, Rig Irons.

THE KIRK MORROW IRON WORKS IOLA KANS.

THE KIRK-MORROW IRON WORKS COMPANY

Sales Offices: Hunt Bldg., Tulsa, Oklahoma; Magnolia Bldg., Dallas, Texas; Central Bldg., Wichita, Kansas.

ft. D. A. MacDonald, Farbo 1, ne 2-37-4w, rig. Cosmos Pet. Co., Towa 1, se 2-37-4w, rig. Thomas, Buckley 1, ne 1-37-4w, rig.

YELLOWSTONE — Montana Corp., 16-4n-26e, dr.

MISSISSIPPI

Completion

Company, Well and Location	Initial Production Bbls.	Depth
HINDS COUNTY—		
Southern Christian Institute, Fee 1, 29-6-4	*	1680

ALCORN COUNTY — Alcorn Pet. Co.'s Matthews 1, 14-2-7, preparing to perf cas at 2560 ft, td 2735 ft.

CHICKASAW COUNTY — Hightower & Golson's Fleming 1, 20-13-13, driving 8¼-inch cas to shut off caving at 1252 ft.

CLAIBORNE COUNTY—Ben White's Old Hen 1, 26-10-4, sd 2004 ft.

HARRISON COUNTY (Gulfport Dist)—Dalton Oil Co.'s Lopez 1, 15-7-10w, lcn.

HINDS COUNTY (Jackson Dist) — Mrs. Ella Rawls Reeder's State Land 1, 25-6-1, arr resume dr and arr set 6-in cas, td 2895 ft. Southern Christian Institute's Fee 1, 29-6-4, fresh water, abn, td 1680 ft. Cleve Love et al's Mayes 1, 2-5-1e, dk pat.

LAFAYETTE COUNTY—F. E. West et al's May 1, 22-10-1w, rigged up wo.

LAUDERDALE COUNTY (Meridian Dist.)—Lauderdale O&G Co.'s Lackey 1, 2-7-16, sr at 2100 ft to set 8¼-inch cas at 2790 ft, to test show oil and gas, td 2816 ft. Meridian Nat. Gas Co.'s Mattie Houser 1, 33-8-18, sd in white shale 2521 ft. J. R. Smith Oil Co.'s Craig 1, 2-6-14, dk.

LINCOLN COUNTY (Brookhaven Dist.)—Lincoln O&G Co.'s Pat Case 1, 21-8-6, dr green shale 1475 ft.

LEE COUNTY — Lee County Pet. Co.'s Hickman 1, 12-8-6, sd 920 ft.

MONROE COUNTY (Amory Dist.)—Amory Pet. Co.'s Hall 1, 8-13-17, fsh for jars before cetting cas 2357 ft, to test old gas show 2387 ft, td 3045 ft. Amory Dev. Co.'s Bourland 1, 2-13-19, dr hard black limestone 2597 ft. Park Bowser's Cowart 1, 2-12-19, arr resume dr 30 ft.

WARREN COUNTY (Vicksburg Dist.)—Henderson et al's Dornbusch 1, 8-18-15, sd 2395 ft, changing fuel.

WEBSTER COUNTY — Cumberland Oil Co.'s Henley 1, 15-21-11, arr resume dr, td 1865 ft.

YALABOUSHA COUNTY (Water Valley)—Philp Bros.' James 1, 20-11-5w, lubricating roller bit hung in cherty formation at 3482 ft. J. D. Collette et al's Blackmer 1, 14-11-4w, dr 300 ft.

ARKANSAS

Completion

MILLER COUNTY—		
Lenz et al, Person 1, 13-15-26	*	3362

ASHLEY COUNTY — Ark. Fuel Oil Co.'s Crossett Lbr. Co. 1, 1-19-7, rig up. J. C. Marcum's McCarry 1, 10-19-4, tested dry through ds, 3300 ft, wo, td 3300 ft.

COLUMBIA COUNTY — L. E. Parker's Franks 1, 25-19-22, dr 2063 ft. Talbert & Markle's Copeland 1, 31-19-19, dr 4410 ft. La. Oil Ref. Corp.'s Green 1, 22-15-19, plugged bottom hole, cemtd 6⅝-in cas 2212, td 2490 ft.

CLEBURNE COUNTY — Cosden Oil Co.'s Donithan Lbr. Co. 1, 19-9-10, dr 320 ft.

DREW COUNTY—McClintock & Goedke's Ogle 1, 33-13-5, fsh for ds 2530 ft.

FAULKNER COUNTY—Gold Creek O. & G. Co.'s McElroy 1, 17-4-13, ta 3872 ft.

FRANKLIN COUNTY — Ozark Nat. Gas Corp.'s McElroy 1, 15-8-27, lcn.

GARLAND COUNTY—H. H. Given's Garrett 1, 1-13-19w, dr hard sand 3377 ft.

GRANT COUNTY—Jones & Watkins' Meek 1, 5-4-11, ta 1400 ft.

JOHNSON COUNTY—Ark.-La. Pipe Line Co.'s Patterson 1, 14-10-24, rig up. Blackwell O. & G. Co.'s Wyver 1, 21-8-25, arr plug back and perf, td 5360 ft.

LINCOLN COUNTY—Pine Prairie O. & G. Co.'s Carter 1, 33-10-6, arr resum dr, td 2176 ft.

LITTLE RIVER COUNTY—Grote et al's Allen 1, 31-12-31, ta 2941 ft. C. F. McDonald's Black 1, 12-13-29, sd 1541 ft. Buck Oil Co.'s Taafe 1, 25-12-32, dr 1895 ft.

MILLER COUNTY—Lenz et al's Person 1, 13-15-26, dry abn, td 3362 ft.

OUACHITA COUNTY—Copenhaver et al's Warnick 1, 2-15-17, sd 2190 ft. Chas. McDonald's Fogle 1, 18-14-16, sd wo 2301 ft. Wesson et al's Booth 1, 12-15-19, sd 2203 ft. Artex Oil Co.'s Smith 1, 31-15-17, rig up. Pure Oil Co.'s Wilson 1, 26-15-18, rig up.

NEVADA COUNTY — Ray Davis et al's Henry et al 1, 10-12-20, dk.

POPE COUNTY — Cosden Oil Co.'s Mo. Pac. R. R. 1, 13-9-19w, dr 75 ft.

PRAIRIE COUNTY — Transcontinental Oil Co.'s Novack 1, 36-2-6, set 8¼-in cas 2058 ft, tested dry through ds 2167 ft, dr 2237 ft.

SEBASTAIN COUNTY — Lavaca O. & G. Co.'s Cason 3, 21-8-30, dk; J. O. Ingram 7, 22-8-30, lcn. A. G. Williams, Jr.'s Patterson 1, 27-8-30, lcn.

ST. FRANCIS COUNTY—Brownlee Drilling Co.'s Whitted 1, 28-4-1, dr 230 ft.

UNION COUNTY—Federal Pet. Co. et al's Fee 1, 5-17-12, topped red beds 2860 ft, coring 2953 ft. Frank Staples' Ainsworth 1, 8-19-16, dr 1550 ft. S. Arrendale's Gallagher & Nelson 1, 18-18-17, sd 2268 ft. W. M. Coates, Tr.'s, McDuffie 1, 32-19-16, tested sw through ds 4048 to 4074 ft, wo. T. J. Woodley's First National Bank 1, 34-19-18, dk. O. W. Estes' Felsenthal 1, 2-18-15, sd wo 2191 ft; Telford 1, 35-17-15, bldg dk. Ark. Drilling Co.'s Norris 1, 17-18-12, tested sw through ds 3296-3300 ft, dr 3315 ft. E. L. Chapman's Thompson 1, 4-17-15, cemtd 10-in cas 110 ft. Marine Oil Co.'s Thompson A-3, 10-18-13, dr 1515 ft.

WASHINGTON COUNTY—Lincoln Lease Holding Co.'s Townsite 1, 30-15-32, sd, repd rig 1050 ft. C. H. Willoughby's Jones 1, 34-16-30, sd 1900 ft. O'Hara & Shetterley's Boyd 1, 12-16-32, sd 150 ft.

WHITE COUNTY—Letona Synd.'s Letona 1, 35-9-8, dr caving shale 3500 ft.

VAN BUREN COUNTY — J. S. Martin's Scanland 1, 5-9-13, sd 50 ft.

ALABAMA

CHOCTAW COUNTY — Gulf Ref. Co.'s Dease 1, 39-9-2, arr abn below 1100 ft. McCall 1, 30-9-2, arr abn depth not given; Lassiter 1 and Stallworth 1, no report.

HOUSTON COUNTY—J. R. Sealey's Fee 1, 13-1n-27e, changing from cable tools to rotary, td 3100 ft.

LAMAR COUNTY—Briggs & Knapp's Wefel 1, 25-12-14, sd 1672 ft.

LAWRENCE COUNTY — Peerson Drilling Co.'s Jacobs 1, 11-7-7, ta 300 ft.

MARION COUNTY — P. J. McAlpine's Clark 1, 29-11-14, lcn.

MORGAN COUNTY—Albany-Decatur O&G Co.'s English 1, 6-6-4, fsh for cas, td 4130 ft.

SUMTER COUNTY—B. W. Bates' Fee 1, 3-18-1w, no report.

WASHINGTON COUNTY—Hobson et al's Wilson 1, 27-7-1w, dr 581 ft. Hobson Bros. 1, 9-8-2, sd 1450 ft. Oscar Brown's U. S. Land & Cotton 1, 26-3-2, no report.

TENNESSEE

DECATUR COUNTY — Chester County O. & G. Co.'s Montgomery 1, set 6-inch cas 1045 ft, dr 1394 ft.

NORTH LOUISIANA

Completions

Company, Well and Location	Initial Production Bbls.	Depth
CADDO PARISH—		
Adams & Despot, Dickson 1, 10-19-14	*	2622
Eylers O&G Co., Sentell 1, 9-19-14	*	2501
Fred W. Ryan, Dickson Heirs 1, 3-19-14	*	2500
Texas Co., Hunter 6, 9-19-14	40	2436
NATCHITOCHES PARISH—		
Robeline O&G Co., Cassady 1, 7-8-9w	†	3230

BOSSIER PARISH—Corbett et al's Murff 1, 16-17-11, sd 990 ft. Lanier et al's Le Rosen 1, 26-21-14, dk pat. Nell & Lanier's Biedenharn 1, 23-21-14, hole full of oil, wosr, td 998 ft. Walker et al's Antrim 1, 28-22-13, sd wo 2184 ft. J. Laskin, Tr.'s, Pardee 2, 3-22-11, coring sandy lime 2654 ft. Morgan et al's Weatherbee 2, 21-19-14, dry arr deepen, td 1932 ft. Nesbitt et al's Leonard 1, 20-19-13, tested dry with 6 ft sand 998 ft, tested sw 1002 ft, arr deepen. Sam Gold et al's McFarlin 1, 7-19-13, rig up. Deleware La. Dev. Co.'s Bolinger 5, 31-23-11, dr 900 ft. Muslow Oil Co.'s Barnett 1, 25-23-11, old well arr deepen, td 3076 ft. Goodman-Johnson's Martin 1, 26-23-12, dr 1600 ft. Mauslow Oil Co.'s Marks Meyer 1, 36-23-12, old well arr deepen, td 3088 ft; Peyton 1, 30-23-11, old well rig up to deepen, td 3042 ft. Northwest La. Gas Co.'s Bolinger 5, 38-23-11, rig up. Smitherman et al's Kilgore 1, 31-23-11, old well being deepened, td 3062 ft. Muslow Oil Co.'s Kilgore 1, 31-23-11, old well being deepened, td 3078 ft. Magnolia Pet. Co.'s Robertson 1, 26-23-12, rig up deepen, td 2058 ft.

CADDO PARISH—Sam Gold et al's Hunter 3, 17-19-14, 200 ft oil in hole, wosr, td 2457 ft; Hunter 4, 17-19-14, lcn abn, will not drill. S. T. Onyett's Dixon 1, 10-19-14, wosr, td 2444 ft. I. N. Pharris' Oden 1, 19-19-14, topped sand 2396 ft, sand to 2409 ft, showing oil and gas, coring to set 6⅝-inch casing 2370 ft. Ohio Oil Co.'s Hunter 4, 17-19-14, dk; Hunter 6, 17-19-14, sd wo 2482 ft. Standard Oil Co. of La.'s Hunter 3, 17-19-14, set 6-inch cas 2360 ft; Hunter 8, 17-19-14, dk. Lide et al's Levee Board 1, 24-19-15, topped red shale 2300 ft, sd 2475 ft; Dickson 1, 10-19-14, rig up. Gulf Ref. Co.'s Oden 5, 18-19-14, ta 2425 ft; Oden 6, 18-19-14, dr chalk rock 1515 ft. Haynes Bros.' Oden 2, 20-19-14, ta 2505 ft. Texas Co.'s Hunter 3, 8-19-14, re-cemtd bottom 2428 ft, setting liner to test, td 2448 ft; Hunter 6, 9-19-14, pumping 40 bbls oil, td 2436 ft; Sibley 1, 9-19-14, lcn; Sentell 1, 9-19-14, rig up. Old River Oil Corp.'s Byrd 1, 15-19-14, fsh for slip 2375 ft. Eylers O&G Co.'s Sentell 1, 9-19-14, dry abn, td 2501 ft Planters Oil & Gas Co.'s Pittman 1, 23-19-14, sd wo 2583 ft. O&G Co.'s Pittman 1, 23-19-14, sd wo 2583 ft. Adams & Despot's Dickson 1, 10-19-14, salt water abn, td 2622 ft. Fitzsimmons Drilling Co.'s Sentell 1, 10-19-14, moving in rig. Fred W. Ryan's Dickson Heirs 1, 3-19-14, dry abn, td 2500 ft. Standard Oil Co. of La.'s School Board 4, 16-19-14, wo 2429 ft. Arrow Oil Co.'s Pender 1, 11-20-15, tested sw 2231 ft, arr deepen. R. W. Norton's Hill 1, 33-23-16, set 9-inch cas 3680 ft, tested sw 3728 ft, tested 9 fourbles sw in ds with 10 ft sand 3838 ft, coring 3979 ft.

CALDWELL PARISH—La. Oil Ref. Corp.'s Louisiana Central O&G Co. 1, 31-12-3e, dr shale 1500 ft.

CLAIBORNE PARISH — Leue Oil Co.'s Taylor 1, 16-22-8w, dk. El Dorado Chief Oil Co.'s Simmons 1, 27-20-7w, sd in shale and bldrs 2240 ft. Triangle Drilling Co.'s Kilpatrick 1, 7-19-5w, dr 2745 ft.

DE SOTO PARISH — Benson O&G Co.'s Harris 1, 6-10-13, dr 1800 ft; Hill 1, 3-10-13, dr 700 ft. R. O. Roy's Farmer E-1 5-13-13, rig up; Farmer B-1, 8-13-13, lcn. P. J. Becker's Tull 1, 23-21-13, fsh for ds 2475 ft. Longstreet Synd.'s Ramsey 1, 33-13-16, ta 2802 ft.

FRANKLIN PARISH—Franklin O&G Co.'s O'Brien 1, 17-13-9e, sd 100 ft. Davis et al's Moore 1, 12-11-6e, sd 1430 ft.

MOREHOUSE PARISH—Rainbow Oil Co.'s Louisville Cooperage 1, 33-22-8e, dk. P. J. White's Chess Wymond 1, 32-19-6e, sd 3025 ft.

NATCHITOCHES PARISH—S. D. McDaniels' Clark-Morese 1, 23-5-6w, sd 2536 ft. Robeline O&G Co.'s Cassady 1, 7-8-9w, junked abn, td 3230 ft; Winn 1, 7-8-9w, rig up. Nichols & Wilder's Clark 1, 10-10-8w, rigged up, wo.

OUACHITA PARISH — J. L. Bulloc, Tr.'s, West Va. 1, 25-18-5e, dr shale and bldrs 2236 ft.

RAPIDES PARISH—Ayers Bros.' Wicklipp 1, 9-5n-2w, sd 900 ft.

RED RIVER PARISH — W. D. Ball's Krumbholz 1, 32-14-10, sd 1050 ft. Benedum & Trees' Franklin 1, 29-11-9, coring 3739 ft. Eylers O&G Co.'s Johnson 1, 17-12-10, sd wo 1050 ft; Chaffraix 2, 30-12-10, sd 2750 ft. Le Grande et al's Sample 1, 11-14-11, rig up. Triple Oil Co.'s Pollock 1, 33-13-11, wosr, td 2470 ft.

RICHLAND PARISH—J. T. Austin, Tr.'s Singletary 1, 20-18-7e, sd 30 ft. Austin & McDonald's Millsaps 2, 17-17-6e, sd wo 2697 ft; Millsaps 3, 16-17-6e, sd wo 2477 ft; Millsaps 4, 16-17-6e, lcn; Millsaps 5, 8-17-6e, dk; Hunt 1, 13-17-5e, dk. Industrial Gas Co.'s Hodge 1, 7-16-7e, dr 2057 ft. A. T. Davidson 1, 6-16-7e, set 6-inch cas 2300 ft; Davidson A-1, 6-16-7e, dr 1686 ft. Ruston Drilling Co.'s Hodge 1, 7-16-7e, dr 1200 ft. Triangle Drilling Co.'s & Woodley Pet. Co.'s Cumpton 1, 16-17-7e, dr 870 ft. Woodley Pet. Co.'s Buie 1, 32-18-7e, set 12½-inch cas 201 ft. S. R. Humble's Binion-Sartor 1, 22-17-6e, heading well, td 2481 ft. Palmer Corp.'s Eubanks 1, 26-17-6e, dr 2875 ft; Miles 2, 12-17-6e, set 6-inch cas 2316 ft. Northern La. Nat. Gas Co.'s Boykin 4, (relief well 3), 20-17-6e, arr resume dr 2398 ft. W. C. Feazel's Landrum 1, 6-16-7e, lcn. Shreveport Contractors' Buie 1, 17-15-7e, arr set cas 2361 ft, claim show of gas.

SABINE PARISH—Sabine O&G Co.'s An-

CONTRACTORS..... *KNOW THE ROPES*

Drilling contractors know exactly what their wire ropes give them in satisfaction and economy. Contractors who try UNION Wire Lines wouldn't standardize on UNION if they didn't get superior service from these lines.

Well No. 9, White Eagle Oil & Ref. Co., J. P. Morris Farm, Eastland Field, Texas; drilled by Kansas Drilling Company.

The men are, left to right (standing): C. E. Nelson, driller; E. L. Ralston of Kansas Drilling Company; J. R. Custer, Mgr., of Jarecki Store, Coleman, Texas. (Sitting): L. J. Norris, tool dresser; H. G. Alston, Union Wire Rope Corp.

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Branch Office and Warehouse
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Factory: 21st and Manchester, Kansas City

JARECKI MANUFACTURING COMPANY
Oil Country Distributors — Stocks at All Stores

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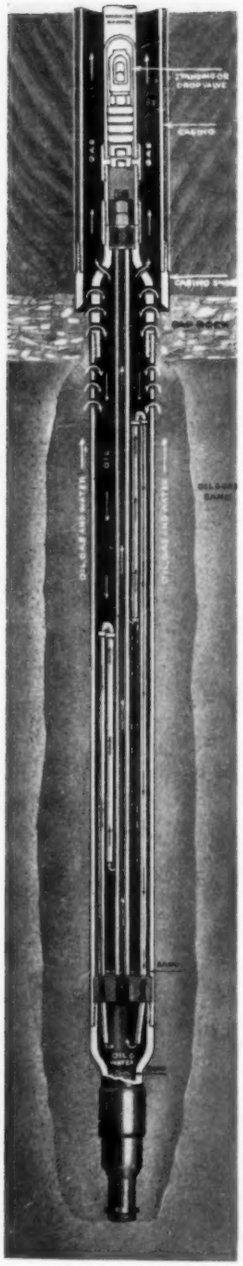

Fully Patented
June 12, 1928—No. 1673663
Oct. 22, 1929—No. 173249

The **Chancellor Separator**

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A POSITIVE GAS ANCHOR
CUT OIL PREVENTER
A DOUBLE SANDTRAP

THE Chancellor Separator is designed to separate the Gas, Sand and Water from the oil at the bottom of the well. Used below the working barrel at the bottom of the hole, it prevents gas troubles, because it is a positive gas anchor. Completely stops the pumping of gas.

Prevents Cut Oil, by keeping the gas out of the tubing, and pumping the water separate from the oil by use of the siphon tubes. First a head of water then a head of oil is pumped through the tubing, keeping worn barrel, cut cups, and valves from emulsifying oil and water. This eliminates the treating of oil and increases the casinghead gas.

There are no working parts to wear out. Closed on top, cavings cannot clog the Separator, absolutely guaranteed in every way—*it will pay for itself before you are invoiced.* This is the result of years of experimenting. Now being used by most of the larger Oil Companies.

Manufactured in lengths of 6 feet to 20 feet, with an outside diameter of either 4″ or 4½″. Special sizes are made to order. We welcome your inquiries. Send for fully descriptive folder giving full details of this remarkable new member of the Miller family.

MILLER

Combination Bailer & Pump Co.

General Offices and Plant
SAPULPA, OKLAHOMA

derson 1, 19-8-12, dr 1865 ft. R. L. Gay, Tr.'s, Bowman-Hicks 5, 14-7-14, set 8¼-inch cas 2090 ft, dr chalk rock 2500 ft; Long-Bell Lbr. Co. 1, 26-8-14, dr 3545 ft; Sabine Lbr. Co. 2, 23-7-14, dr broken lime 3780 ft; Bowman-Hicks A-1, 34-8-12, cored chalk rock showing oil 2405-2413 ft, setting 8¼-inch cas 2397 ft, td 2413 ft. A. H. Tarver et al's Long-Bell Lbr. Co. 1, 29-8-13, bailing liner, small show oil and gas 3629 ft. D. H. Reddick, Tr.'s Scretchfield 1, 18-9-12, rig up. G. M. LeGrand's Haley 1, 6-7-12, dk.

UNION PARISH—Fred Stovall's Stovall 1, 32-23-4e, rig up.

WEBSTER PARISH—F. M. Fuller's Monzingo 1, 27-18-8e, dr 600 ft. P. Hudson's Gardner 1, 1-22-11, 1500 ft oil in hole, 6 ft sand, wosr td 2743 ft; Gardner 2, 1-22-11, dk; B. L. Slack B-1, 36-23-11, dk. Magnolia Pet. Co.'s Scroggins 2, 1-22-11, wosr 2708 ft. McCook & Hibbler 1, 22-21-10, arr drill plug after cemtd 5¾-inch cas 6947 ft, to test 11 ft oil sand 6947-58 ft, td 6965 ft; Kight 1, 33-23-9, wosr td 2692 ft; Bailey 1, 29-23-9, bailing to test, td 2782 ft. Sarepta Oil Co.'s Gardner 1, 1-22-11, moving in heavy rig to deepen, td 2681 ft. Paul C. Warren's Martin 1, 20-20-9, dr 1152 ft. Donohoe Oil Co.'s Roseberry B-1, 19-23-9, lcn.

SOUTH LOUISIANA

ACADIA PARISH — Yount-Lee Oil Co.'s Houssiere-Latrielle 7, Evangeline, dr 7275 ft shale and lime; C. O. & M. Co. 5, lcn; Simms Fee 1, dr 5050 ft shale and lime. The Texas Co.'s Rayne Hrs. 5, Evangeline, dr 5175 ft sand rk.

ASCENSION PARISH—Gulf's United Lds. Co. 16, Sorrento, dr 3200 ft. Triumph Oil Corp.'s Lacey 2, 3 mi se Sorrento, dr 3660 ft sandy shale.

ASSUMPTION PARISH — Gulf's Armalise Plating Co. 1, Napoleonville, lcn.

CALCASIEU PARISH — Wilfred Lahay's James 2, 3½ mi s Starks dome, dr 3775 ft sandy shale.

CAMERON PARISH—The Texas Co.'s Calcasieu Lake A-4, s Calcasieu Lake, abn in lime rock at 5885 ft; Calcasieu Lake A-5, s Calcasieu Lake dome, lcn. Pure's Yount Lee 7, Sweet Lake, fsh 6380 ft. Shell's Watkins 6, Black Bayou, dr 4920 ft sand; Watkins 12, Black Bayou, running tubing, td 5222 ft; A. Marceaux 1, Mallard Bay, dr 4960 ft hard sand. Yount-Lee Oil Co.'s W. H. Stark 1, Johnsons Bayou, dr 5825 ft shale and lime.

IBERIA PARISH—Gulf's State Z-11, Loreauville, dr 150 ft. The Texas Co.'s Vermilion Bay A-4, dr 3585 ft hard sandy shale. Jefferson Lake Oil Co.'s Lake Peigneur 3, Jefferson Island dome, sd 800 ft.

IBERVILLE PARISH—Standard's Wilbert 4, Bayou Blue, dr 650 ft gbo; Wilbert 5, driving piling; Schwing 5, dr 630 ft gbo. Vacuum Oil Co.'s DeVilbiss 2, Roanoke, dr 6580 ft gbo and lime. Yount-Lee Oil Co.'s Geo. Courtney 1, Welsh, ru.

PLAQUEMINES PARISH — The Texas Co.'s Garden Island Bay 3, dr 750 ft. Humble's Cockrell-Moran 1, Lake Grande Ecaille, set surface cas; Lake Washington 1, Lake Grande Ecaille, dr 4250 ft hard sand.

ST. LANDRY PARISH — Elbof Explorations' Valmont Ledoux 1, Eunice, dr 2900 ft sandy shale. Hebert-Baker Oil Co.'s Fisher 1, dr 2050 ft gbo.

ST. MARTIN PARISH — The Texas Co.'s St. Martin Ld. Co. Fee 1, Hager dome, dr 5375 ft gbo; St. Martin Ld. Co. Fee 2, dr 4210 ft rock; Iberville Ld. Co. 1, Hager dome, dr 1314 ft. Bayou Teche Oil Co.'s Fournet 1, dr 3885 ft sand. Rycade-Humble's Bayou Bouillon 7, fsh 4800 ft.

ST. MARY PARISH—La. Ld. & Explo. Co.'s L. L. Clarke 1, 3 mi w Morgan City, dr 1200 ft sandy shale.

TERREBONNE PARISH—The Texas Co.'s Lake Pelto B-3, foundation ready; Bay Junop 1, dr 4785 ft; Bay St. Elaine 3, abn in salt 2420 ft; Bay St. Elaine 4, lcn; Lake Barre State 3, driving piling for foundation; Caillou Island 2, dk; Dog Lake Bayou B-2, dr 825 ft gbo.

TEXAS GULF COAST

Completions

JEFFERSON COUNTY—
Weldon Oil Co., Burrell 1 ..... * 1450

WASHINGTON COUNTY—
Brain et al, L. S. Smith 1, 2 mi e Chappel Hill ..... * 1540
Tannehill et al, Estes 1, n Brenham * 2075

AUSTIN COUNTY — Empire's Jackson 1,

We Recommend Happy Endless Belts;

Proven in Service on Happy Vertical Tightners for Beam Wells and Automatic Band Wheel Power Idlers

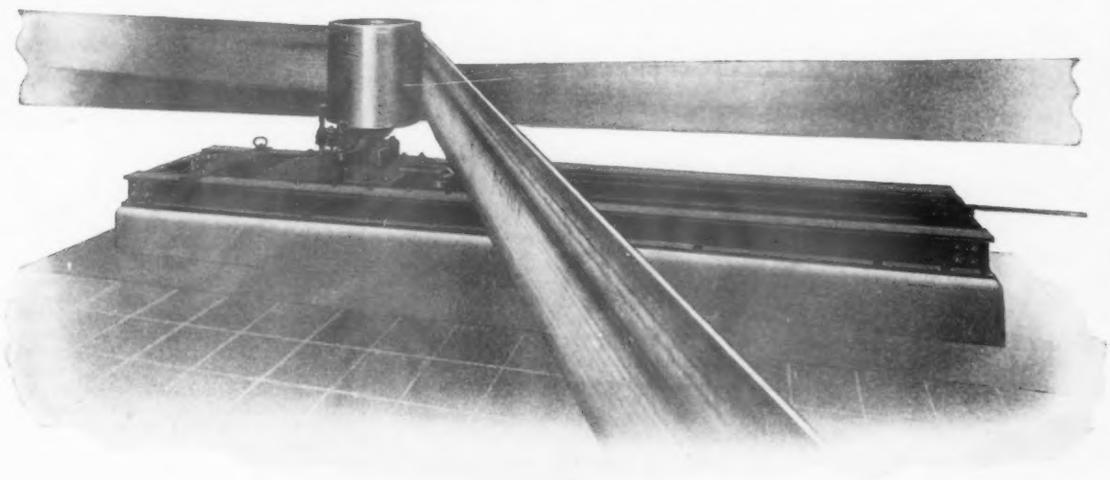
The Happy Tightner permits the use of ENDLESS BELTS. ENDLESS BELTS ELIMINATE DOWN TIME FOR CUTTING BELTS OR BELT CLAMP TROUBLE.

Application of ENDLESS BELTS AND HAPPY TIGHTNERS increase arc of contact on driving and driven pulley, allowing belt to run looser thereby correcting tension and lengthening life of belt.

Corrected Belt Tension permits shorter centers, reducing belt length as well as belt house.

Happy Belt Tightners are easy to adjust. The pumper can tighten or loosen tension on belt while in operation. It is mounted on adjustable portable steel frame, which has braces for alignment. The braces having right and left screw for adjustment.

Pulleys on both applications mounted on ball bearings which require greasing only two or three times a year.



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ENDLESS BELTS and HAPPY AUTOMATIC IDLERS for Band Wheel Powers eliminate all guess work when applying tension to the slack side of belt. Tension may be increased or decreased by adding or removing weights.

Any change in length of belt either on elongation because of change in load or shrinkage due to change in weather, is automatically cared for and pre-determined tension in the belt is never exceeded.

WE CARRY A LARGE STOCK OF ROLL LENGTHS OF THE POPULAR AND WELL KNOWN HAPPY INNERSTITCHED FRICTION SURFACE BELT.

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SEMINOLE, OKLAHOMA

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The Best Drilling Link for Any Wire Line Clamp

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ACME FISHING TOOL CO.

Parkersburg, W.Va.

ESTABLISHED 1900

San Felipe dome, set 9-inch cas to test oil show at 3140 ft.

BRAZORIA COUNTY—Thos. Faust et al's Fee 6, 2 mi s Nash Dome, dr 2825 ft sand and shale. Shell's Blakely-Winston 1, 2 mi ne Danbury, swabbed 22.4 gravity oil, with 80 per cent salt water at 1577 ft, preparing to run 2½-inch tubing. Mills Bennett Prod. Co.'s Allen 1, Allen dome, dr 2315 ft lime.

CHAMBERS COUNTY—Pure's Lost Lake 3, dr 4075 ft sand rock; Mayes 4, Lost Lake, dr 2925 ft shale; Mayes 5, fsh for screen at 2666 ft; Mayes 6-A, dr 1000 ft; Mayes 7, dr 2826 ft sand and shale; Mayes 8, dr 2455 ft sand and shale. Chicago Oil Corp.'s Lawrence 1, 10 mi s Barbers Hill, dr 3015 ft shale.

FORT BEND COUNTY—Gulf's Moore 19, Moores Field, dr 6750 ft sandy shale.

HARRIS COUNTY — Cranfill-Reynolds' Brown 1, w Goose Creek, dr 3075 ft. Humble's Simms-Smith 76, Goose Creek, dr 4767 ft sand and shale; Woodburn 2, 2 mi s Genoa, dr 3327 ft shale; Warren 6, Hockley, dr 4795 ft hard sand; Minnetex 2, Mykawa, dr 185 ft gravel and shale. Watts Drlg. Co.'s Hubert 1, Mykawa, dr 2200 ft shale and boulders, Higgins O. & F. Co.'s Siadous 1, Mykawa, dr 30 ft clay. Hammon et al's Brodt 1, s Sheeks, sd 1200 ft. Mrs. J. C. Baldwin's Kitzman 1, 2 mi n Cypress, washing to bottom, 4055 ft depth. Buffalo Oil Co.'s Beall 1, Eureka, ru.

JEFFERSON COUNTY — Gulf's Bordages 8, Fannett, dr 3120 ft sand and shale; Burrell 4, Fannett, dr 3150 ft gbo; G. W. Junker 1-A, dk. Weldon Oil Co.'s Burrell 1, abn 1450 ft. The Texas Co.-Houston Oil Co.'s Fitzhugh 1, Big Hill, dr 5022 ft hard sand. The Texas Co.'s Pipkin 2, Big Hill, set cas at 5606 ft, waiting on cement to set. Rosedale Oil Co.'s Walker 1, Rosedale, set cas at 1650 ft.

LIBERTY COUNTY—Humble's Sterling 6, Moss Bluff, dr 5590 ft shale. Gulf's Weiser 1, Hankamer, dr 4750 ft shale; Boyt 3, Hankamer, dr 2750 ft hard sand. Harrison Oil Co.'s Bladerack 1, N. Dayton, dr 4880 ft shale. Cranfill-Reynolds Co.'s Vajdak 1-A, Esperson dome, core sand at 5225 ft; T. G. Davis 1, Esperson dome, dr 1400 ft sand and shale. Yount-Lee Oil Co.'s Moores Bluff Corp. 2, Esperson dome, ru. Campbell et al's Fee 1, 5 mi s Devers, ru.

ORANGE COUNTY — Veteran Oil Co.'s Read 1, 2 mi se Orange field, dr 4400 ft sand and shale, oil show reported. The Texas Co.'s Polk 1, Port Neches, set cas at 3150 ft. Gulf's H. J. Stark 1, Port Neches, dr 4790 ft sand and shale.

POLK COUNTY—Humble's Rogers 1, 10 mi north Livingston, dr 780 ft. Sunshine Oil Co.'s Chase 2, se Livingston, casing set at 3220 ft, oil show reported.

VICTORIA COUNTY—Humble's Welder 1, 3 mi se Nursery, dr 5367 ft shale.

WALLER COUNTY — Talbert & Markle's Young 1, 10 mi s Hempstead, dr 3865 ft shale. Fuchs et al's Kirke 1, 2 mi w Burton, dr 1950 ft shale. Brain et al's L. S. Smith 1, 2 mi e Chappel Hill, abn 1540 ft. Anderson et al's Hughes 1, 3 mi n Chappel Hill, ru. Owens et al's Weiss 1, 3 mi sw Brenham, dr 3350 ft gbo. Melat et al's F. C. Schwartz 1, 5 mi e Independence, dr 1710 ft shale. Penn-Tex Oil Co.'s Kamas 1, sw Brenham, sd 1525 ft. L. D. Steele's Koniecesky 1, dr 1525 ft rock. Tannehill et al's Estes 1, n Brenham, abn at 2075 ft shale.

SOUTHWEST TEXAS

ATASCOSA COUNTY—Boynton's Fuller 1, cleaning out.

BEXAR COUNTY—Moore and Juar's Ellison 1, dr. Leon Creek Oil Co.'s A. Reininger 1, cmt pipe. Penn Tex.'s Kate May 1, show of oil, coring in chalk at 1760 ft. Texas Pet. Co.'s J. Fress 3, lcn. Swift and Fisher's Beck 1, sd.

BEE COUNTY—Houston Oil Co.'s McKinney 1, dr. Mission Dr. Co. Ray 6, ru. The Texas Co.'s Tipps 1, dr.

BASTROP COUNTY—R. L. Botts et al Alexander 1, dr. T. C. Hadley Kiel 1, dr Howell et al Wekcham 1, standing at 1710 ft. Superior Oil Co.'s King 1-A, dr.

BROOKS COUNTY—Amos Dinn Trustee Garcia-Ramos 3, dr. G. W. French Allen 8, dr 2800 ft. Houston Oil Co.'s Holbein-Wormser 1, dr 2725 ft.

CALDWELL COUNTY—San Antonio Pet. Corp.'s Wackenhagen 1, dr 850 ft. Alexander & Smith's G. W. New 1, dr. Humble Oil and Ref. Co.'s Floy Gray 10-C, prod 50 bbls; Floy Gray 11-A, prod 75 bbls; Smith 8-B, prod 300

FISHING TOOLS
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AMERICAN IRON & MACHINE WORKS CO. · OKLAHOMA CITY ·

AMERICAN FISH TAIL BITS

(PATENTED)

This bit is a departure from the conventional design of Rotary Drilling Bits and is especially effective in drilling Gumbo or soft formation. The Water Courses extend through the entire body of the bit with the outlet on the blade just above the cutting edge, which prevents the bit from balling up and will, therefore, cut your spudding down to a minimum. This unique feature hastens the mixing of cuttings and promotes the rise of mud in the hole.

The American Fish Tail Bit makes more hole every time run and reduces your round trips 50%, keeping your pipe in the hole instead of on the way out and into the hole. It reduces labor, expense and speeds up production.

This bit is manufactured with ample material for redressing, and cutting surfaces are easily prepared and hard surfaced for long service. They hold well to gauge and there are no twist-offs, no balling up and very little spudding is necessary.

A trial will convince you that you can't afford to use any other type of fish tail bit.

We will hard surface the cutting edges to your specifications at a minimum charge.

Specify size and type of thread when ordering.

We are now manufacturing a 24 ft. American Forged Steel Drill Collar which, when used in connection with the American Fish Tail Bit, or any other bit, will enable you to drill a much straighter hole.

AMERICAN IRON and MACHINE WORKS CO.

Manufacturers of Oil Field Equipment

OKLAHOMA CITY, OKLAHOMA

AMERICAN OIL FIELD EQUIPMENT

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American Releasing and Circulating Overshots
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American Milling Shoes
American Flexible Coupling for Rock Bit Lubricators
American Steel Tool Houses
American Steel Tool Boxes
American Forged Steel Wall Hooks
American Rock Bit Breakout Blocks
American Paraffin Bits
American Forged Steel Drill Collars
American Female Die Nipples
American Tapered Taps
American Forged Steel Subs
American Rotary Shoes
American Cone Fishing Baskets
American Steam Lubricators
American Side Tracking Mills
American Combination Reverse and Throttle Levers
American Steel Engine Foundations
American Automatic Cat Head
American Automatic Cathead Control Levers
American Rotary Milling Tools
American Myracle Sucker Rod Sockets
American Surface Bit Blades for Rock Bits
American Drill Pipe Float Joints
American Pump Manifold Check Valves
American Eccentric Releasing Overshot
American Casing Suspension and Blowout Preventer
American Lead Plug
American Rock Bit Cone Fishing Sockets
American Steel Whipstocks
American Inside Pipe Cutter for Drill Pipe or Casing
American Adjustable Steel Rig Braces
American Fish Tail Bits

bbls at 2705 ft; Northcutt 4-B, prod 50 bbls.

DE WITT COUNTY—McIntyre's Van Rooder 1, dr. E. P. Zock Steinman 1, ru.

DIMMIT COUNTY—Texas Fuel Gas Co.'s Laxon 1, set cas at 1460 ft.

DUVAL COUNTY—Allied Gas Co.'s Dinn 1, dr 1500 ft; Dinn 2, ru. R. N. Buckner Peters 1, spd in. Humble's Koehler 37, testing; Peters 1, dr 300 ft. Mag. Pet. Co.'s King-Harper 2, lcn; Hahl 10, set cas at 2291 ft; Hahl 11, lcn. J. G. Mackey's Dinn 2, prod 30,000,000 cu ft of gas at 1762 ft. National Oil Co.'s Ball 2, dr. Simms Oil Co.'s Dinn 7, dr, 1200 ft. Simpson-Fell Oil Co.'s Moody 7, dr 500 ft. Southern Oil Co.'s Welder Woods 1, std 750 ft. Trapshooter Reilly and C. E. Long's Hahl 3, dr 2200 ft. Trussell & Partee's Hagist 1, std 2260 ft. E. P. Zoch's King 1, lcn (also listed in Jim Hogg.)

EDWARDS COUNTY — A. M. Griffith's Wardlow 1, sd at 3000 ft.

FALLS COUNTY—O. W. Killam's C. A. Jones 1, dr.

FAYETTE COUNTY—Mouldon Oil Co.'s Kempe 1, dr 1900 ft.

GOLIAD COUNTY—Compton and Co.'s A. T. Framme 1, dr. Houston Oil Co.'s McKinney 1, dr. Western Union Oil Co.'s Lucas 1, dr. Zoch et al's Kaufman 1, dr.

GONZALES COUNTY—Adams & Lisle's 1, dr. Acme Oil and Royalty Co.'s H. R. Weber dr 1730 ft, shale. Beeman & Station's Station 1, dr. Bruner's Miller Bros. 1, dr, 3460 ft, shale. Burt and Son's F. O. Menking 1, drk. Crown Pet. Co.'s Hattenbach 1, sd at 3016 ft. Cranfill-Reynolds' Land 1, dr 3260 ft, shale. Green et al's Dix 1, dr 2781 ft, hard sand. Linderman Bros.' Frampton 1, fsh 2060 ft. Finnel and Elam's J. F. Robinson 1, sd 1570 ft. United North and South Development Co.'s Preston 1, dr 1915 ft, shale; Knippa 1, dr.

GUADALUPE COUNTY—All States Pet. Co.'s (Carl Bros) Powell 1, sd. Cranfill-Reynolds' R. C. Appling 1, dk. Clemens-Trinity Dr. Co.'s Rand Miller 1, dr 2200 ft. Empire's Wilson-Dowdy 1, timber on lcn. J. O. Dore et al's Wm. Appling 1, lcn. Grayburg Oil Co.'s Wells 1, dr, 3300 ft. O. W. Killam's Adams 1, dr 2250 ft. Keifer's Dix 1, sd at 2700 ft. Mag. Pet. Co.'s Rand Miller 1, prod 600 bbls at 2621 ft, in Edwards; Echols 1, dk; Roamel 1, lcn; C. Zedler 1, dk; Dix 2, ru. Mandine Investment Co.'s L. V. Echols 1, tested at 2532 ft in chalk. United North and South Dev. Co.'s Dix 1, dr 2500 ft. Pagenkoff and Kennon's O. J. Halm 1, cas set at 1650 ft. Shell's Denman 1, moving on. Eugene Sights et al's Behring 1, sd at 2402 ft; Behring 2, lcn. Thurman's Rand Miller 1, prep to spd in.

JIM HOGG COUNTY—Alworth, Stevens & Hild's Garza 1, dr. T. J. Conway's Leyendecker 4, sd. Deep Rock Oil Co.'s Kelsey 1, standing at 2582 ft. L. M. Holden's Jones 4, dr. O. W. Killam's Martinez 1, skidded dk. Mag. Pet. Co.'s Martines 2, tested oil and salt water at 2089 ft; Hinnant 1, dr; Martinez 3, set pipe at 1892 ft. Geo. Marshall's Holbein 4, dr; Holbein 5, spd in. Moore-Milham Dr. Co.'s Guerra 1, dr. Randando Oil Co.'s Palacios 35, std. W. R. Shankle's Holbein 3, dr 600 ft. Texas Co.'s Bandera 1, dr. F. N. Zoch's King 1, lcn. (Also listed in Duval.)

KARNES COUNTY—Benedum & Trees' S. R. Gross 1, dr. J. O. Claypool's P. W. Tom 2, dr. Barnett 1, dr.

KERR COUNTY—E. O. Trustill et al's Love 1, dr.

KLEBERG COUNTY—Humble's Kleberg 8, (Rosco tract) dr.

KENDALL COUNTY—Borget et al's Willie Haag 1, dr. Sterling et al's 1, dr.

KINNEY COUNTY—A Blum's Herbst 3, dr.

KIMBLE COUNTY—Bryant et al's No. 1 Lamber, sd at 700 ft. H. A. McClendon's Cannon 1, sd at 1520 ft.

LA SALLE COUNTY—Sun Oil Co.'s Berry 1, dr 320 ft. Salt Lake City Oil Co.'s 1, sec 17, resumed dr.

LIVE OAK COUNTY—Catlett & O'Neill's (Trinity Drillers) Cattle Loan Co. 1, dr.

MAVERICK COUNTY—Rycade Oil Co.'s Chittim 3, dr, 5900 ft; Chittim 4, dr, 5600 ft.

MEDINA COUNTY—Pat Armstrong's Rutts 1, dr. TNT Dr. Co.'s Mangold 1, dr; Noonan 1, dr.

McMULLEN COUNTY—Sun Oil Co.'s Berry 1, dr, 1050 ft.

NEUCES COUNTY—Graham, Wallace, Yeakery & Patton's 1, blk 79, Roberts Farm, dr. Trinity Drillers' Thompkines 1, (Sun), sd at 4200 ft. Texas Co.'s Artemus Roberts 1, ru.

REFUGIO COUNTY—Benedum and Trees Oil Co.'s Rooke 1, dr. Houston Oil Co.'s Wilson Heard 9, dr, 1800 ft. Houston Gulf Gas Co.'s Ryals 5, dr; Shelly 6, deepening; M. F. Lambert 1, dr; Tom Heard 3, dr; Cummings 2, dr; Morgan Shelly 2, dr. Independent O. & G. Co.'s O'Brien 1, dr, 5993 ft; Anna Reilly 1, dr in at 3691 ft; Claud Heard 1, set cas at 3674 ft; Reilly 5, dr 1187 ft; J. B. F. Heard 1, set surface cas at 456 ft; Reilly 4, set surface cas at 451 ft. Mission Dr. Co.'s Mitchell 2, dr, 4896 ft; Powers 2, std; Ekridge-Heard 2, prod 500 bbls at 3660 ft; Fox 2, dr about 2400 ft. Morgan Oil Corp's City 3, prod 800 bbls at 3670 ft; Strauch 1, cemented at 3660 ft. Pearson Properties' Fox 2, prod 50,000,000 cubic ft of gas at 3700 ft; Hornberg 1, sp in. Saxet et al's Serfino 1, prod 50,000,000 cubic ft of gas at 3693 ft. Holmes Heard 3, dr. Texas Co.'s Clint Heard 1, prod 40,000,000 cu ft gas at 3672 ft.

SAN PATRICIO COUNTY—Spencer & Rhodes 3, (Texas Co. Fee 75) dk.

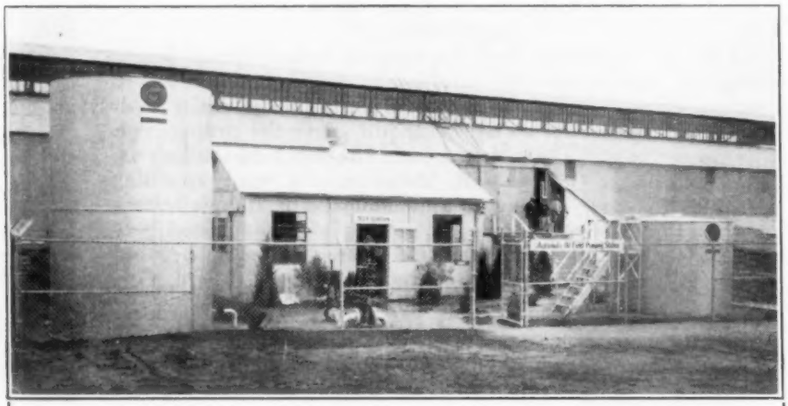
STARR COUNTY—Smith-Adams G. B. Welch 1, dr Milam Dr. Co.'s Allen 5, dr. Texas Co.'s Guerra A-4, share 305-D, Porcion 76, set cas at 3560 ft.

VICTORIA COUNTY—Humble's Welder 1, dr 5310 ft.

VALVERDE COUNTY—Blume et al's Yost 1, dr, about 450 ft. Phantom Oil Co.'s Ingram 1, dr 1175 ft.

UVALDE COUNTY—Phantom Oil Co.'s 1, lcn. Waldron & Welch's Berson 1, dr.

WEBB COUNTY—Cole Pet. Co.'s 67, resumed dr—now at 300 ft. Foster Barnsley's Webster 8, dr. Houston Oil Co.'s Benavides 2-G, lcn; Rosa Benavides 1-H, prod 25,000,000 cu ft gas at 2291 ft; Benavides 2-D, dr. O. W. Killam's Bruni 14, prod 20,000,000 cu ft gas at 2327 ft; Bruni 15, spd in. J. J. O'Hern's Benavides 3, ru; Valdez 2, prep to dr in; Benavides 1M, prep to spd in; Perez 1, dr. Mag. Pet. Co.'s S. Perez 1, fsh at 2673 ft, to dr deeper; Valdez 1, setting up; D Benavides 1, dk. C. E. Mayberry's Puig 9, dr, 1200 ft. L. W.



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Nelson's Moglia 2, sd at 2800 ft. Livingston & Payne's Guerra-Ochoa 1, sd. W. R. Shankle's Webster 2, dr. Everett Suladie's Bruni 1, dr.

WILSON COUNTY—Tidal Oil Co.'s Kulesza 1, water well to spd in shortly. Grayburg Oil Co.'s Degler 1, temp sd at 3430 ft. Trinity Drillers-Arkansas Nat. Gas Co.'s Richter 1, dr, 500 ft.

ZAPATA COUNTY—Blair & Son and Claggett's Trevino 2, dr, 1200 ft. Blankenship et al's Garza 1, dr, 1510 ft; Montemayor 1, set cas at 1320 ft. Buck and Coursey's Garza 1, standing at 1474 ft. Duval Oil Co.'s No. 1, dr. Killam-Duggan's Cuellar 10, set cas at 1593 ft; Cuellar 11, testing sand at 1196-1222 ft. O. W. Killam's Cuellar 17, dk. Mag. Pet. Co.'s R. G. Martinez 1, dr. Marts and Beavens Trevino 1, dr, 2365 ft. South Texas Prod Co.'s Roy Jennings 2, dr, 1840 ft; Joe Jennings 7, prep to spd in; Joe Jennings 8, ru. Shell Pet. Corp.'s Lopez 1, sd at 1600 ft. John Pappas' Cuellar 2, dr, 1600 ft.

ZAVALLA COUNTY—Wiegand Bros. Gates 1, dk.

EAST TEXAS

BOWIE COUNTY — Hooks O&G Co.'s Rosenberg 1, King sur, ta 3086 ft.

CAMP COUNTY—Rogers et al's Enfelt 1, Montgomery sur, sd 1920 ft.

RED RIVER COUNTY—D. M. Buffington's Hoosier 1, Hughart sur, sd 1863 ft. Shad. Harper's Garland 1, Wagley sur, sd 1440 ft. Johnson Pet. Co.'s Randolph 2, Dean sur, sd 1862 ft.

SHELBY COUNTY — Chapparral Oil Co.'s Holt 2, Matthew Moore sur, arr resume dr, td 3004 ft. Gulf Ref. Co.'s Pickering Lbr. Co. 2, Patterson sur, set 6⅝-inch cas 3210 ft, bailed down 2100 ft, showing sw, no oil or gas, td 3276 ft. Benedum & Trees' Pickering Lbr. Co. 1, Yordt sur, arr set 8-inch cas 2862 ft.

WEST TEXAS

Completions

Company, Well and Location	Initial Production Bbls.	Depth
GLASSCOCK COUNTY—		
Shell Pet. Corp., Kloh 1-B	*	2574
PECOS COUNTY—		
Henshaw Bros. et al, McDonald 1..	*	1660
Landreth Prod. Corp., Cunningham 1	*	1720

ANDREWS COUNTY—Deep Rock Oil Co. et al's Ogden 1, elev 3206 ft, top salt 1750 ft, dr anhydrite-lime 3900 ft.

BORDEN COUNTY — W. A. Moncrief-Humble O. & R. Co.'s Munger 1, elev 2433 ft, top salt 1090 ft, sd 2430 ft. Teas-Wheeler's Long 1, elev 2516 ft, top salt 1030 ft, ur 3813 ft.

BREWSTER COUNTY—Ed. W. Bateman & Co.'s Neville 1-A, sd 2274 ft. Brewster Oil Co.'s Fee 1, sd 1930 ft. E. L. Chapman et al's Skinner 2, sd 950 ft. Grastorf et al's Redfield 1, machine.

COCHRAN COUNTY—R. A. Westbrook & Co.'s Slaughter 1, top salt 2347 ft, set cas 2771 ft.

CONCHO COUNTY — T. B. Slick & D. Lamb's Mosley 1, sd 450 ft.

COKE COUNTY—Mid-Kansas O&G Co.'s Lackey 1, elev 2152 ft, dr 4225 ft.

CROCKETT COUNTY — California Co.'s Shannon 1, rig. Cushing R&G Co.'s Powell 3, rig. Empire G&F Co.'s Shannon 1, dr 415 ft. Lewis et al's Pecos River Bed 1, elev 1967 ft, sd hfw 1335 ft. Magnolia's A. C. Hoover 1, dk. TP Coal & Oil Co.'s Shannon 1, dr 310 ft.

CULBERSON COUNTY—Grisham-Hunter Corp.'s Fee 1, set cas 2605 ft; Seay 1, spudding.

ECTOR COUNTY—Cosden Oil Co.'s University 1-B and 1-B, materials. Landreth Prod. Corp.'s University 1-A and 1-B, digging cellars. Humble-Penn Oil Co. & Atlantic's York 1, dr 800 ft.

EL PASO COUNTY — Inter-Coastal Oil Co.'s Malone 1, sd 1481 ft.

FISHER COUNTY—Cranfill-Reynolds Co.'s Bledsoe 1, spudding. Landreth Prod. Corp.'s Cooper 2-A, dr 2400 ft. Magnolia Pet. Co.'s Lee 1, elev 1827 ft, dr 3660 ft. Mid-Kansas O&G Co. & Phillips Pet. Co.'s Stephenson 1-A, top lime 3228 ft, sd 3605 ft. Midwest Explo. Co.'s Steele 1, elev 1867 ft, sd for storage with hlo 3192-93 ft. Henry Riley et al's Veatch 1, elev 1879 ft, sd hfw 3300 ft. Roeser-Pendleton-Amerada's Waco Bank 1, dr 2055 ft.

GAINES COUNTY — Cranfill-Reynolds Co. & La. O&R Corp.'s Ralph 1, co 1290 ft.

GARZA COUNTY—H. C. Cate & Pandem

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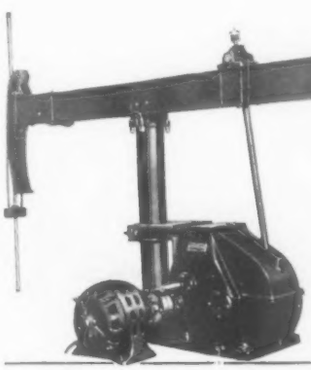

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Oil Corp.'s Stoker 1, elev 2452 ft, top salt 810 ft, dr 1860 ft. Thompson et al's Tuthing 1, elev 2277 ft, sd 2610 ft.

GLASSCOCK COUNTY — California Co.'s Currie 3, comp 2185 ft; Jones 1, dk. Continental Oil Co.'s Phillips 1, rig. Glasscock Bros. et al's Edwards 1, set cas on good show oil 2276-88 ft. Union Oil Ref. Co.'s Coffee 2, elev 2604 ft, top lime 2052 ft, co with 1200 ft oih 2153-2235 ft; Coffee 3, cem cas and sd 2071 ft. Kirby Pet. Co. et al's Baker 2, cem cas 2068 ft. Shell Pet. Corp.'s C-ffee 1, elev 2607 ft, top lime 2053 ft, testing after pb from 2280 to 2239 ft. Simms Oil Co.'s Coffee 1, dr 2065 ft. E. L. Smith Oil Co.'s Coffee 2, ur 10-inch cas 985 ft. Sun Oil Co.'s Phillips 4, elev 2652 ft, set cas 2100 ft. World Oil Co.'s McDowell 2-C, rig.

TOM GREEN COUNTY — Fitzgerald & Smith's Bennett 1, sd 2430 ft. Fuhrman Pet. Corp.'s Lewis-Wardlaw 1, set cas 635 ft.

HOCKLEY COUNTY — World Oil Co.'s Ellwood 1, elev 3363 ft, top salt 2157 ft, co 7250 ft.

HOWARD COUNTY—Meriwether Oil Co.'s Eva Smith 1, sd 1480 ft.

HUDSPETH COUNTY — California Co.'s University 1, elev 5833 ft, lowering 10-inch cas from 2545 to 2829 ft.

IRION COUNTY—Beasley et al's Sawyer 1, spd and sd. Brown & Fox's Tankersley 1, machine. J. B. Crawford et al's Nutt 1, sd 1105 ft. Carl Cromwell et al's Fuller 1, fsh 710 ft. Irion Oil Co.'s Tankersley 1, fsh 520 ft. Kingwood Oil Co. et al's J. D. Sugg 1, elev 2334 ft, show oil and gas, dr lime 7745 ft. J. A. Starkweather et al's Lindley 1, dr 1265 ft. P. H. Williams et al's Ashe 1, fsh 4755 ft.

JONES COUNTY—Adsit et al's Swenson 1-A, elev 1521 ft, sd 2508 ft. Cranfill-Reynolds Co. & California Co.'s Stephens 1, dr 1015 ft. Mid-Tex O&G Co.'s King 1, sd 1540 ft; W. A. Minter 1, set cas 1680 ft. F. E. Shaheen et al's King 1, sd 1835 ft.

KENT COUNTY—White & Smith's Pursley 1, sd 273 ft.

LOVING COUNTY — Humble Unit Plan's Kloh 1-C, elev 2814 ft, top salt 1230 ft, dr 3010 ft. Independent O&G Co.'s Wheat 1, top salt 780 ft, dr 1260 ft. Lockhart & Co.'s Allen 3, top salt 725 ft, dr 3780 ft; Hubbard 4, elev 2694 ft, top salt 710 ft, top black lime 4194 ft, top sand pay 4229-36 ft, testing with 1000 ft oih; Wheat 1-H, dr 4805 ft.

LYNN COUNTY—Hart Oil Corp. & Geo. McCamey's Edwards 1, elev 3128 ft, top salt 2140 ft, dr 4850 ft.

MITCHELL COUNTY — Gibson-Johnson's Scott 2, sd 775 ft; Scott 3, lcn. Texas & Wheeler's Radford 1, elev 2223 ft, fsh hfw 4335 ft. Magnolia's D. H. Synder 1, rig.

NOLAN COUNTY—Gibson-Johnson's Bond 1, elev 2126 ft, sd 2212 ft. Phillips Pet. Co.'s Plunkett 1, elev 2423 ft, dr 4380 ft.

PECOS COUNTY — Anderson-Prichard & Texas Co.'s Wright 1, machine. Ed. W. Bateman & Co.'s Cordova 1, elev 2393 ft, top salt 705 ft, sd 1425 ft; Cunningham 1, dr 980 ft. M. H. Black et al's Pecos Valley 1, machine. Buell-Hagan et al's L. L. Byrne 1, rig. Cardinal Oil Co. (was Geo. D. Morgan's) Tippett 1, bad hole 120 ft; Toberg 2, elev 2311 ft, top lime 1200 ft, pb from 1285 to oil pay 1273-75 ft and flow 4 bbls oil daily. E. L. Chapman & J. D. O'Mara's W. C. Streety 1, dr 1250 ft. Cosden Oil Co.'s McDonald 1, dr 480 ft. Cranfill-Reynolds-Warner & Owens' Masterson 1, elev 2425 ft, flow 15 bbls 27 deg. oil and one mil ft gas daily 1249-69 ft, td 1440 ft. Cromwell & Harrison's White-Baker 1, show oil 822-27 ft, dr 875 ft. Dittman Drlg. Co. et al's Cunningham 1, lcn. Dixie Oil Co.'s McKenzie 1, machine. Freeman & Miller's Pecos Valley 1, machnie. Humble O&R Co.'s Cunningham 1, show gas 870 ft, dr 1065 ft. Independent O&G Co.'s Phelps 1, dr 46 Cft. Jayhawk Pet. Co.'s Price 1, elev 2310 ft, top salt 655 ft, dr 1565 ft. J. L. Kennedy et al's Kennedy 1, elev 3217 ft, set cas 1827 ft. Kirby Pet. Co.'s Belgrade 1, lcn. Landreth Prod. Corp.'s McDonald 1-B, fsh 1435 ft; Smithpeter 1, elev 2530 ft, top salt 827 ft, dr 1905 ft. Mazda Oil Corp.'s Cordova 1, spd and sd. W. A. Moncrief & L. C. Turman's Sullivan 1, spudding. R. E. Moore et al's Arnold 1, elev 3860 ft, co 1428 ft. H. T. Odneal et al's Power 1, spd and sd. J. D. O'Mara et al's Bennett 1, sd 875 ft. Phillips Pet. Co.'s I. T. Pryor 3, testing pay 1370-89 ft. Rector Oil Co.'s State 1, elev 2459 ft, re-set cas 1180 ft. M. M. Rowan et al's Sherbino 1, elev 2884 ft, sd 2497 ft; University 1, flowing oil and water 2044 ft. Schumaker et al's Williams 1, elev 2980 ft, sd 2450 ft. Sides & Cloyd's Blackstone-Slaughter 1, sd 360 ft. Texas Co.'s Graef 1, spudding. Tower-McKanna, Inc.'s University 1, (Sec. 14) dr hfw 2085 ft. Transcontinental Oil Co.'s University 1, elev 2552 ft, sd 4676 ft. Trees Oil Co.'s Trees 3, machine. F. P. Zoch & Eastland Oil Co.'s Cordova 1, top salt 840 ft, dr 1070 ft.

REAGAN COUNTY—Big Lake Oil Co.'s University 1-C, set 6⅝ cas in shale and lime shells 8000 ft; University 2-C, set 5 3/16 cas 7950 ft; University 3-C, flowed 105 bbls oil and lots gas 8375-85 ft; University 4-C, recovered tools, flowed 272 bbls oil 17½ hrs., td 8220 ft. Group One Oil Corp. (Continental's) University 2-B, dr rotary 1930 ft; University 3-B, dr rotary 2170 ft. Henshaw-Thomas-Brann's Hughes 1, set cas 1622 ft.

REEVES COUNTY—Mack Best et al's McKinney 1, dr 755 ft. Hansford et al's Williams 1, spd and sd. Slack & Fink's Brooks-Huling 1, sd 500 ft. Southern Crude Oil Pur. Co.'s Kloh 1-A, dr lime 5050 ft. Thompson et al's Eddins 1, fsh 5658 ft. White et al's Hersheusen 1, elev 3244 ft, top salt 2670 ft, sd in salt 3575 ft.

SCHLEICHER COUNTY — Ft. McKavitt Oil Co.'s Tisdale 1, co 3500 ft. Phillips Pet. Co.'s J. A. Whitten 1, elev 2333 ft, fsh tools 5565 ft. Munger-Wilson Oil Co.'s Page 1, dr 490 ft.

SCURRY COUNTY — J. G. Armand & Camp Springs O&R Co.'s Quinn 1-A, dr 2875 ft. Byrd & Harmon et al's Murphy 1, elev 2298 ft, top salt 775 ft, top lime 1507 ft, sd 1732 ft. Cottingham & Briscoe et al's Truss 1, elev 2664 ft, top salt 1050 ft, top lime 2175 ft, set cas 3305 ft. R. B. Pender O&G Co.'s Davis 1, elev 2208 ft, top salt 445 ft, sd with trace oil and gas 4065 ft. E. L. Smith Oil Co. et al's Mooar 1, rig.

STERLING COUNTY — Cranfill-Reynolds Co. (was S. B. Owens, Inc.'s) Tweedle 1, dr 580 ft.

SUTTON COUNTY — Independent O&G Co.'s Wilson 1, lcn. Independent-Sun Oil Co.'s Allison 1, elev 2291 ft, dr 3515 ft. Phillips Pet. Co.'s Holman 1, elev 2277 ft, top lime 2317 ft, dr by tools 6633 ft. L. G. Priest et al's Allison 1, elev 2238 ft, sd 4010 ft.

TAYLOR COUNTY — Adams-Ferguson & Hobbs' I. L. Lowe 1, elev 1970 ft, dr 920 ft. J. B. Jameson et al's Webb 1, elev 1905 ft, ur 5000 ft.

TERRELL COUNTY—Big Bend Oil Corp.'s Bassett 1, elev 2396 ft, sd 1150 ft. Milham Corp.'s Bassett 1, elev 2270 ft, fsh cas 5400 ft. Transcontinental's Goode 1, rig.

VAL VERDE COUNTY—Phantom Oil Co.'s Ingram 1, sd 1185 ft.

WARD COUNTY—Atlantic & Delmar Oil Co.'s Hayzlett 5, co with 1800 ft oih after shot 220 qts 2460-2505 ft; Hayzlett 6, machine. Cranfill-Reynolds Co.'s Willams-Robeson 1, elev 2516 ft, sd 2495 ft. C. C. Dorr et al's Costley 1-A, driving cas 155 ft. Gulf Prod. Co.'s Hutchings 3, rotary rig; O'Brien 7, elev 2653 ft, top brown lime 2460 ft, dr 2590 ft. L. C. Harrison Oil Co. & F-H-E Oil Co.'s Wristen 1, elev 2530 ft, top salt 715 ft, co 2390 ft. J-H-L Oil Co.'s Hayzlett 3, rig. Penn Oil Co. & Atlantic Oil Prod. Co.'s Cooper 1, spudding; Bennett 2, spudding. Shell Pet. Corp.'s Sloan-Owen 1, top salt 765 ft, swabbing 20 bbls 35 deg. gravity oil and trace water 2886-2918 ft. Shipley Oil Corp.'s Hayzlett 3, swab 25 bbls oil after two shots 2462-2500 ft; Hayzlett 4, dry after shot, td 2546 ft; Hayzlett 5, rig; Monroe 1, sd 565 ft. Sun Oil Co.'s Sealy 1, rig. Texo-Oil Co.'s Redman 1-A, elev 2717 ft, ur 1280 ft.

WINKLER COUNTY — M. J. Bashara et al's Fee 2, spd and sd. V. T. Bolin & Co. et al's Brown 2, sd 2843 ft. Champlin-Winkler Oil Corp.'s (was Liner's) Campbell 1, elev 2884 ft, top salt 1155 ft, dr 3215 ft. Sun Oil Co.'s Sealy 2, rig.

T. J. SPIKES

Recently named district manager in Texas, with headquarters in Wichita Falls, for Union Machine Company of Bartlesville, Oklahoma, manufacturers of pumping powers and other oil field equipment. Mr. Spikes also covers the territory embraced within New Mexico, Louisiana, Arkansas and Southern Oklahoma.

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Wildcat Will be Drilled in Yalabousha County

Jackson, Mississippi.—Starting a new test in Yalabousha County in North Mississippi and abandonment of a test in Hinds County near here, were among the oil developments of the last week in Mississippi and Alabama.

J. D. Collette who is associated with the Carter Oil Company has spudded in and is drilling at 300 feet in Blackmer 1, Section 14-11-4w, Yalabousha County. Southern Christian Institute has abandoned as a fresh water hole its Fee 1, Section 29-6-4, Hinds County, at 1680 feet.

Lauderdale Oil and Gas Company's Lackey 1, Section 2-7-16, Lauderdale County, is reaming below 2100 feet in the Blossom formation, where it is planned to set eight and a fourth inch casing at 2790 feet for a test of a sand between that level and bottom of hole at 2816 feet. Meridian Natural Gas Company has shut down Mattie Houser 1, Section 33-8-18, in white shale and gumbo at 2521 feet.

In Lincoln County, Brookhaven district, Lincoln Oil and Gas Company is drilling green shale at 1475 feet in Pat Cass 1, Section 21-8-6. Philp Brothers are lubricating to pull out a hung roller bit in James 1, Section 20-11-5w, Yalabousha County, which is down to 3482 feet in a red chart. Amory Development Company in Bourland 1, Section 2-13-19, Monroe County, is drilling hard black limestone at 2597 feet. Alcorn Petroleum Company is preparing to shoot casing at 2560 feet in Mathews 1, 14-2-7, Alcorn County.

South America Oil Shipping Facility Added

Houston.—Gulf Caribbean Steamship Company has recently been appointed Houston agents for the Redwood Line, Inc., a steamship company operating between the Pacific Coast and the Gulf Coast. This move results from a step taken by the Redwood Line to include Houston in its regular route to serve Texas and Mid-Continent interior points.

Securing of the agency to handle the Houston business of the Redwood Line materially increases the facilities of Gulf Caribbean Steamship Company to handle South American business through delivery at Cristobal, Panama, where connections are made with ocean-going vessels to numerous points.

Formerly the Redwood Line, Inc., had ships plying between Seattle, Tacoma, Portland, San Francisco, Los Angeles, Panama Canal Zone and New Orleans. Under the new arrangemet to serve Houston, the first arrival is scheduled to be December 14, and every two weeks thereafter.

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COMPLETIONS

(Continued from page 90)

TEXAS PANHANDLE

CARSON COUNTY—

Reynolds et al, E. Cooper 2	300	3125
Ryan Consolidated Pet. Corp., Block 6	200	3102

GRAY COUNTY—

Operators Oil Co., Cooke-Faulkner 8	¶40-3200	2810
Skelly Oil Co., A. Chapman 1	600	2808
Jackson-North 5	500	3055

WHEELER COUNTY—

Northern Texas Utilities Co., Gooch 6	¶40	1592
Staley-Wynne & Co., C. Hicks 1	¶8	1940

NORTH TEXAS

ARCHER COUNTY—

Barnsdall Oil Co., Wilson 17-B	95	1715
L. T. Burns et al, Kemp 1	*	1852
Parrish 1	*	1532
Wilson 3-P	*	1478
Douglas Oil Co., McClure 4	35	1299
W. R. Duke et al, Young 1	160	1415
P. F. Gwynn et al, Thompson 8	*	1600
Hedrick-Camp Drlg. Co., Harris 1	*	1457
Peacock & Tedford, Williams 1	10	579
Perkins-Cullum-Petroleum Prod. Co., Lauster 1	15	1128
Shappell Oil Co., Lyles 12	30	1702

CLAY COUNTY—

J. Hickman & Heydrick, Myers & Co. 1	30	1019
J. F. Mayfield et al, Mason 1	*	1413

COOKE COUNTY—

Coline Oil Co., Huggins 5	125	1116
Petroleum Prod. Co., Price 1	*	1925
Simmons-Crowley et al, Wheelock 3	15	1325

DENTON COUNTY—

John McMeans-Fain-McGaha, Miller 1	*	1630

ELECTRA—

Bridwell Oil Co., Burnett 5	*	1941
G. W. Couper et al, Foster-Allen 1	*	1943
Everts & Jamison, Gibson 2	30	1913
C. P. Sheldon & Jamison, Volkart 1	125	1930

FOARD COUNTY—

Humble O&R Co., Matus 1	¶15	1620
Wichtex Oil Co., Johnson 1	5	2145

JACK COUNTY—

Panhandle Ref. Co., McKelvey 1-A	¶15-425	3105

K-M-A AND IOWA PARK—

Arkansas Fuel Oil Co., K&K 32-B	65	1768
Hiland Oil Co., Burns-Cates 1	45	1812
Ryan Consolidated Pet. Corp., Nance III	*	512
Star Drilling Co., Crudup 3-B	*	841
Underwood Drlg. Co., Ferguson 1	*	1852

MONTAGUE COUNTY—

Carter & Rycade Pet. Corp., Cunningham 10	25	926
Continental Oil Co., Howard 25	35	1022
Continental & Bridwell Oil Co., Cunningham 1-C	55	1116
Geo. L. Pace et al, Cobb 1-A	*	1902

WILBARGER COUNTY—

Davis Oil Corp., Waggoner 3	500	2670
Easter Oil Co., Waggoner 1-D	35	2438
Empire Gas & Fuel Co., Waggoner 11-C	15	2460
Waggoner 14-L	140	2300
Golding-Cochran et al, Waggoner 3-J	80	2422
Grayback Dev. Co., Waggoner 1-B	130	2693
Shaw Oil Co., Waggoner 6-E	60	2427
Staley-Wynne & Co., Waggoner 16-G	70	1864
Waggoner 3-S	150	1889
Waggoner Ref. Co., Waggoner 13-J	50	2402

YOUNG COUNTY—

Atlantic Oil Prod. Co., Jarnigan 1	*	3890
J. F. Baker & W. Pardue, Donnell 1	360	3312
Christie et al, Waddell-Hammond 1	*	1264
Cunningham et al, Kisinger 1	150	2549
Johnson et al, Edwards 1	*	1282
Long et al, McCaghren 5-A	*	955
Perkins & Cullum, Lemmond 5	*	744
T. G. Shaw et al, Roark 1	*	4230
United Prod. Co., Kunkel 4	*	1158
Wise & Jackson, Culler 5	30	595

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HERE is the Electric Jack that astounds the industry! We dare not tell the whole truth for fear of seeming to exaggerate. It cuts power bills in half. It gets results heretofore undreamed of. Parts, when and if required, cost little. Even the initial cost is low.

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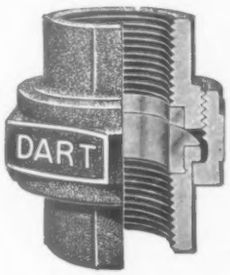

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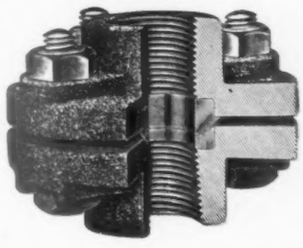

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Among those from whom we have received contracts during the past twenty-five years are the following:

United States Government

Standard Oil Co. of New Jersey	Standard Oil Co. of New York
Houston Pipe Line Company	Sinclair Pipe Line Company
Magnolia Petroleum Company	Roxana Petroleum Company
Prairie Pipe Line Company	Atlantic Pipe Line Company
Texas Pipe Line Company	American Petroleum Company
Ohio Oil Company	Pierce Oil Company
Illinois Pipe Line Company	Peoples Gas Company
Pure Oil Pipe Line Company	Magnolia Gas Company
Oklahoma Pipe Line Company	Lone Star Gas Company
Buckeye Pipe Line Company	Southern Gas Company
Swiftsure Petroleum Company	Latex Gas Company
Louisiana-Arkansas Pipe Line Co.	Landreth Production Company

OKLAHOMA QUARTERLY PRODUCTION REPORT FOR THIRD QUARTER, 1929

Following is a list of companies and individuals reporting to the Oklahoma Corporation Commission on Gross Production. The list gives those companies and individuals which reported production valued at more than $5,000. Royalty returns have purposely been omitted from the list to help avoid confusion.

Dagger (†) indicates value shown includes gas value also.

Name— Address	Barrels	Value
Atlantic Oil Producing Company, Dallas	46,650	†40,804
Atlantic Oil Producing Company, Dallas	....	2,322
Atlantic Oil Producing Company, Dallas	321,392	471,904
Atlantic Oil Producing Company, Dallas	20,972	†33,031
American Oil Development Company, Pittsburgh	4,811	6,915
American Refining Properties, Wichita Falls	4,307	6,953
American Maracaibo Company, New York	8,563	15,842
American Oil & Refining Company, Oklahoma City	....	13,329
Peter Adamson, Jr., Tulsa	....	22,219
Amerada Petroleum Corporation, Tulsa	814,139	1,281,013
Amerada Petroleum Corporation, Tulsa	....	†47,103
Amerada Petroleum Corporation, Tulsa	2,082	†3,814
Ben A. Ames, Oklahoma City	4,235	6,345
Alma Petroleum Company, Oklahoma City	1,056	5,701
N. L. Amster, Ardmore	5,690	8,358
S. W. Anthony, Mounds	....	5,600
Arkansas Fuel Oil Company, Shreveport, Louisiana	6,288	7,188
Armor Oil & Gas Company, Duncan	3,283	6,073
Argo Oil Company, Denver, Colorado	31,022	53,375
J. R. Bridgeford & Company, New York	....	5,236
Bay State Oil & Gas Company, Kansas City	1,528	2,368
Bay State Oil Gas Company, Kansas City	9,425	15,088
Bay State Oil & Gas Company, Kansas City	1,981	2,954
Baltic Operating Company, Bartlesville	3,616	3,805
Barnsdall Oil Company, Tulsa	1,965,360	1,482,881
Barnsdall Oil Company, Tulsa	....	†40,526
Barnsdall Oil Company, Tulsa	1,998	2,713
Barnsdall Refining Company, Tulsa	....	9,130
A. C. Brown Oil Enterprise, St. Louis	3,979	5,372
J. G. Beard and S. I. Kolb, Duncan	4,084	†7,534
Britton-Johnson Oil Company, Tulsa	5,616	6,181
Bridwell Oil Company, Wichita Falls	8,406	11,278
Babel Gray Breene, Tulsa	4,540	6,363
Frank M. Breene, Trust Est., Tulsa	5,481	7,725
Geo. S. Bole, Tulsa	10,019	†15,860
Frank Buttram, Oklahoma City	....	18,820
Frank Buttram, Oklahoma City	2,166	3,325
Braden and Moore, Tulsa	6,398	9,086
Braden and Moore, Tulsa	....	†355
Bell Oil & Gas, Tulsa	3,530	5,689
E. A. Bradley and Anna, Tulsa	5,131	6,784
Beaver Oil Company, Enid	2,985	5,520
T. J. Baker, Okmulgee	....	2,734
T. J. Baker, Okmulgee By Central Nat'l Bank, Trustee.	....	2,748
Baker and Strawn, Tulsa	8,456	10,718
Bissett, Lytle and Gray, Tulsa	8,799	11,839
Bissett, Lytle and Gray, Tulsa	6,188	7,775
Barbara Oil Company, Oklahoma City	7,362	12,096
J. W. Bird and Wm. Hanley, Bradford, Pa.	4,918	6,713
Baldwin and Sultan, Walters	13,048	18,996
Berry Petroleum Company, Tulsa	10,213	13,743
Bryan Petroleum Company, Tulsa	18,471	†33,111
C. E. Burlingame Corporation, Bartlesville	4,437	7,022
Braman Oil Company, Incorporated, Tulsa	3,594	7,881
James Braun, Bartlesville	.....	6,462
Babcock Brothers, Denison, Texas	....	13,130
Benedum-Trees Oil Company, Pittsburgh	15,748	23,250
Blackwell Oil & Gas, Cushing	....	570,240
Blackwell Oil & Gas, Cushing	....	†5,092
Burke-Greis Oil Company, Tulsa	148,218	229,126
Burke-Greis Oil Company, Tulsa	....	†30,004
Burke-Greis Oil Company, Tulsa	6,989	15,157
Cudahy Oil Company, Cleveland, Ohio	12,356	15,306
Coline Oil Corporation, Oklahoma City	294,138	†486,867
Coline Oil Corporation, Oklahoma City	42,019	69,838
W. S. Critchlow, Ardmore	8,169	12,655
J. E. Crosbie, Incorporated, Tulsa	70,124	108,612
Commercial Drilling Company, Tulsa	4,392	5,653
Commercial Drilling Company, Tulsa	1,924	3,212
Central Petroleum Company, Tulsa	6,620	9,604
Central States Producing Corporation, Tulsa	....	†16,865
Cities Service Gas Company, Bartlesville	....	58,775
Consolidated Gas Utilities Company, Oklahoma City	1,537	36,673
J. S. Cosden, Incorporated, of Oklahoma, Fort Worth	460,604	765,105
Creo Oil Company, Tulsa	6,244	8,010
Cortez Oil Company, Tulsa	5,694	9,686
Comar Oil Company, St. Louis	645,144	1,125,993
Comar Oil Company, St. Louis	....	†41,486
Continental Oil & Refining Company, Independence, Kansas	5,365	7,086
Coline Oil Company, Oklahoma City	40,830	36,083
Conservation Oil Company, Tulsa	6,483	9,477
Commonwealth Trust Company, Okmulgee	4,854	6,216
Caddo Oil Company, Tulsa	25,464	34,864
Carter Oil Company, Tulsa	2,813,665	4,130,649
Carter Oil Company, Tulsa	....	†349,797
Carter Oil Company, Tulsa	....	12,802
Carter Oil Company, Tulsa	....	7,580
Carter Oil Company, Tulsa	....	69,339
Crews Estate Oil & Gas, Enid	7,507	†15,291
H. D. Cornell, Trustee, Tulsa	3,317	6,238
H. D. Cornell, Trustee, Tulsa	1,960	3,404
Cromwell-Franklin Oil Company, Oklahoma City	73,435	120,173
Colsau Oil Company, Tulsa	4,751	5,710

Production of 10 Leading Oklahoma Producers for Third Quarter, 1929

Company—	Barrels Oil Produced	Value of Oil and Gas Produced
1. Prairie Oil & Gas Company	4,819,184	$ 8,054,156
2. Magnolia Petroleum Company	4,416,648	6,904,138
3. Sinclair Oil & Gas Company	4,311,175	6,948,206
4. Gypsy Oil Company	4,093,866	6,668,548
5. Carter Oil Company	2,813,665	4,570,167
6. Midcontinent Petroleum Corporation	2,110,805	3,368,643
7. Barnsdall Oil Company	1,967,358	1,535,250
8. Shell Petroleum Corporation	1,939,932	3,170,546
9. Pure Oil Company	1,844,462	3,063,775
10. Independent Oil & Gas Company	1,443,860	2,393,882
Total	29,760,955	$46,677,311

Name— Address	Barrels	Value
John I. Cary, Okmulgee	....	16,409
G. W. Connelly, Caney, Kansas	....	8,870
S. C. Canary, Tulsa	6,331	8,368
Mrs. Elizabeth R. Crockett Hayes, Oklahoma City	3,022	4,481
Champlin Refining Company, Enid	237,204	402,124
Champlin Refining Company, Enid	....	†29,834
J. E. Crosbie, Inc., Tulsa	4,013	5,035
Joe Casperson, Tulsa	2,776	5,174
Cumberland Petroleum Company, Cleveland, Ohio	4,847	5,574
Continental Oil Company, Ponca City	622,829	†1,035,669
Cherokee Warren Oil & Gas, Tulsa	8,387	10,483
H. E. Clark, Tulsa	....	17,183
Deep Rock Oil & Refining Company, Tulsa	24,131	†39,691
Delmar Oil Company, Bartlesville	15,243	22,409
Delmar Oil Company, Bartlesville	....	†111
Delmar Oil Company, Bartlesville	....	†2,848
Darby Petroleum Corporation, Tulsa	....	†34,400
Darby Petroleum Corporation, Tulsa	569,839	882,651
Darby Lynde Company, Tulsa	64,781	†104,633
D. B. Duff, Cleveland, Ohio	....	9,171
Dallas Company, Tulsa	....	5,364
Dixie Oil Company, Inc., Shreveport, La... 153,611	106,919	247,806
Duncan Wichita Falls Pipe Line Company, Wichita Falls, Texas	20,471	32,600
Douglas Oil Company, Tulsa	....	3,601
Denver Producing & Refining Company, Okmulgee	21,898	34,356
Denver Producing & Refining Company, Okmulgee*	42,656	66,489
E. D. Davis Oil Company, Oklahoma City	....	7,124
Jos. D. Davis, Tulsa	3,749	5,946
Delaware Consolidated Oil Company, Tulsa	47,921	59,159
Devonian Oil Company, Tulsa	269,669	443,980
Devonian Oil Company, Tulsa	....	†3,391
Enfisco Oil Corporation, Tulsa	5,428	6,741
Empire Oil & Refining, Bartlesville	737,887	1,180,611
Empire Oil & Refining, Bartlesville	....	85,199
Empire Oil & Refining, Bartlesville	....	107,059
Elm Oil Company, Tulsa	8,051	†11,404
Elm Oil Company, Tulsa	2,052	†3,192
Eagle Gasoline Company, C. G. Tibbens, Tulsa	....	†6,106
Eagle Picher Lead Company, Henryette	2,535	†5,958
Enid Bank and Trust Company, Trustee, Enid	....	6,176
Elliott and Vensel, Tulsa	6,072	7,242
Lea R. Ellis, Tulsa	....	3,500
Ellis Drilling Company, Wichita Falls, Texas	4,328	†7,162
Exchange Trust Company, Tulsa	....	25,015
A. J. Erlewine et al, Wilson	6,708	8,844
Elliott and Smith, Tulsa	4,561	6,048
James F. Foster, Anthony, New Mexico	....	4,302
Foster Oil Company, Tulsa	....	10,208
Foster Petroleum Corporation, Bartlesville	292,667	454,935
Foster Petroleum Corporation, Bartlesville	31,511	49,096
Foster and Davis, Incorporated, Bartlesville	8,790	12,432
Fern Oil & Gas Company, Yale	6,254	9,389
Fern Oil & Gas Company, Yale	4,423	7,111
A. M. Frierson, Trustee, Bristow	....	6,030
Fort Ring Oil & Gas Company, Fort Worth	6,994	†11,159
Flynn Oil Company, Oklahoma City	6,311	9,482
D. W. Franchot & Company, Tulsa	31,788	50,094
D. C. Fitzgerald, Trustee, Ardmore	5,169	6,950
D. C. Fitzgerald, Ardmore	1,553	2,155
Wirt Franklin Petroleum Corporation, Ardmore	248,427	320,049
Wirt Franklin Petroleum Corporation, Ardmore	....	†8,324
Wirt Franklin, Ardmore	72,564	118,680
Wirt Franklin, Ardmore	....	14,610
Wirt Franklin, Ardmore	3,800	5,003
Wirt Franklin & Mary C. Cates, Oklahoma City	2,077	2,813
Fuhrman Petroleum Company, Okmulgee	....	47,488
Finance Oil Company, Gowanda, New York	13,198	18,585
Gypsy Oil Company, Tulsa	170,086	258,161
Gypsy Oil Company, Tulsa	....	†264,995
Gypsy Oil Company, Tulsa	3,766,166	5,858,428
Gypsy Oil Company,* Tulsa	....	2,911
Gypsy Oil Company, (suspense) Tulsa	156,814	253,542
Gypsy Oil Company, Tulsa	....	†23,760
Gardner Petroleum Company, Tulsa	22,562	38,474
R. F. Garland & Company, Tulsa	9,302	15,342
A. E. Graham, Okmulgee	....	15,789
Glidden Oil Corporation, Tulsa	6,437	9,432
V. L. Goltry, Trustee, Enid	....	2,069
John B. Grieves, Terlton	8,489	13,843
Guaranty Trust Company, New York	....	36,046
Grimes and Gillespie, Tulsa	11,093	17,007
Gilmer Oil Company, Ardmore	38,910	†52,748
Gilcrease Oil Company, Tulsa	53,906	65,740
Gilcrease Oil Company, Tulsa	....	5,438
Glass and Harmon, Nowata	8,513	12,175
C. C. Harmon, Nowata	7,177	10,117
Gates Oil Company, Ardmore	9,397	11,527
M. E. Gaskill, Tulsa	....	16,949
J. C. Green, Maud	....	7,368
James H. Graham, Tulsa	5,418	8,366
F. A. Gillespie & Sons, Tulsa	18,084	21,999
Gorton Trust Company, Cement	8,387	11,625
Gray Oil Company, Tulsa	7,552	12,214
Highway Oil Refining Corporation, Tulsa.... 89,049	205,043	135,355
Hill Drilling & Development Company, Tulsa	5,126	7,083
J. A. Hull Company, Tulsa	44,840	†72,130
J. E. Hall, Holdenville	....	49,189

Name— Address	Barrels	Value
Henry Oil Company, Tulsa	5,228	7,137
Harris-Haun, Incorporated, Blackwell	....	16,032
E. L. Harris, Trustee, Tulsa	....	17,165
J. W. Henry, Tulsa	4,955	9,691
Hambro Oil Company, St. Louis, Missouri	4,417	5,979
Healdton Oil & Gas Company, Enid	26,867	47,911
Healdton Oil & Gas Company, Enid	9,463	15,334
Healdton Petroleum Company, Enid	....	40,567
Howard Petroleum Corporation, Tulsa	4,124	6,158
Harland Oil Company, Walco	15,896	†22,425
Hay and McClure, Incorporated, Peoria, Illinois	12,894	22,712
Henderson Oil Company, Marietta, Ohio	7,586	9,480
Houston Oil Company of Texas, Houston	98,372	151,137
Houston Oil Company of Texas, Houston	44,586	2,176
Humble Oil & Refining Company, Houston	225,134	254,444
Attention — This is for second quarter 1929, which came in too late for last report, hence is given here		
Humble Oil & Refining Company, Houston	78,831	96,290
Humble Oil & Refining Company, Houston (This represents part of quarter; sold to Carter Oil Company)	....	†2,674
W. T. Hales, Oklahoma City	45,529	57,995
W. T. Hales, Oklahoma City	....	†1,813
Homackla Oil Company, Oklahoma City	7,658	9,687
Homaokla Oil Company, Oklahoma City	168,990	224,344
Home Gas Company of Cushing, Oklahoma	23,104	†45,425
O. R. Howard, Tulsa	7,566	12,856
Frank Haskell, Agent, Tulsa	9,257	12,372
Hewitt Mineral Corporation, Ardmore	4,642	5,242
Halsell & Son Oil & Gas, Vinita	3,213	†5,488
Harold Petroleum Company, Blackwell	....	13,069
T. J. Hughes Oil Corporation, Cushing	....	5,660
O. M. Ireland, Sapulpa	5,677	8,372
Indian Territory Illuminating Oil Company, Bartlesville	1,348,712	2,135,189
Indian Territory Illuminating Oil Company, Bartlesville	....	†113,500
Indian Territory Illuminating Oil Company, Bartlesville	....	†75,087
Indian Territory Illuminating Oil Company, Bartlesville	....	23,688
Indian Territory Illuminating Oil Company, Bartlesville	79,593	125,066
Indian Territory Illuminating Oil Company, Bartlesville	....	†630
Interocean Oil Company, Tulsa	43,124	64,172
Indiana Oil and Gas, Tulsa	25,225	35,587
Indiana Oil and Gas, Tulsa	....	†3,631
A. B. Ice and L. F. Ice, Tulsa	....	5,962
Imo Oil & Gas Company, Covington	....	12,523
Iron Mountain Oil Company, Tulsa	12,045	†17,833
Independent Oil & Gas Company, Tulsa	1,443,860	2,229,021
Independent Oil & Gas Company, Tulsa	....	†138,516
Independent Oil & Gas Company, Tulsa	....	19,632
Independent Oil & Gas Company, Tulsa	....	6,713
E. H. Jennings Brothers Company, Pittsburgh	3,758	†5,584
R. G. Jennings, Pittsburgh	6,074	10,251
Junction Oil & Gas Company, Newkirk	4,406	6,599
Josey Oil Company, Tulsa	97,499	170,444
Josey Oil Company, Tulsa	....	†7,012
Jarvis-Zollinger and Andrews, Trustee, Shawnee	....	17,861
R. C. Jones & Company, Incorporated, Cushing	....	14,000
Ralph W. Johnston, Denison, Texas	2,108	2,508
Roy M. Johnson, Ardmore	.....	10,766
Roy M. Johnson, Ardmore	....	5,629
Johnson Oil Refining Company, Chicago	11,178	15,888
Jackson, Wise and Bovaird, Sapulpa	4,530	5,175
Jackson, Wise and Snedden, Sapulpa	....	1,210
Jackson, Wise and Markham, Sapulpa	....	2,634
Jackson and Wise, Sapulpa	3,445	3,900
Jackson and Morrison, Sapulpa	....	1,660
Leo Jacobs, St. Louis	3,573	4,998
Jarvis and Holm, Inc., Tulsa	7,663	9,237
Kewanee Oil & Gas Company, Titusville	235,393	†412,516
Keener Oil & Gas Company, Tulsa	40,158	52,819
Keener Oil & Gas Company, Tulsa	....	†245
Chas. E. Cox, Enid	3,675	7,102
Kiester-Manning, Incorporated, Tulsa	14,565	†22,936
J. T. King, Okmulgee	3,855	6,359
Kingwood Oil Company, Okmulgee	56,920	†94,066
Kirk Oil Company, Ardmore	....	6,241
D. L. Knappenberger, Tulsa	3,749	5,946
John L. Kirkland & Son, Tulsa	7,278	9,047
Kreola Oil Company, Ardmore	10,158	7,563
Kreola, Colcord and Commerce, Ardmore	9,741	12,517
Kay County Gas Company, Ponca	....	†84,803
Kay and Kiowa Oil Company, Tulsa	5,902	10,019
Kay Oil Company, Blackwell	33,921	57,691
Lima Oil & Gas Company, Bartlesville	2,298	2,880
Lima Oil & Gas Company, Bartlesville	....	†18,442
Little Nick Oil Company, Chickasha	....	11,687
Link Oil Company, Tulsa	17,058	†26,198
Ben LaFayette, Oklahoma City	....	30,476
Large Oil Company, Bartlesville	3,074	5,418
Lenox Oil Company, Okmulgee	....	17,043
Lone Star Gas Company, Dallas	8,909	10,319
Louisiana Oil Refining Corporation, Shreveport	104,641	†133,912
LeFlore County Gas & Electric, Poteau	....	†12,665

Scene on St. Louis-Monroe 22" line

Engineering Knowledge Backed by Practical Experience

Sound engineering principles are necessary in the planning and construction of oil and gas pipe lines. When this knowledge is backed by men of experience and a past record of high performance a good line within the specified time is assured.

OKLAHOMA CONTRACTING CO.

DALLAS

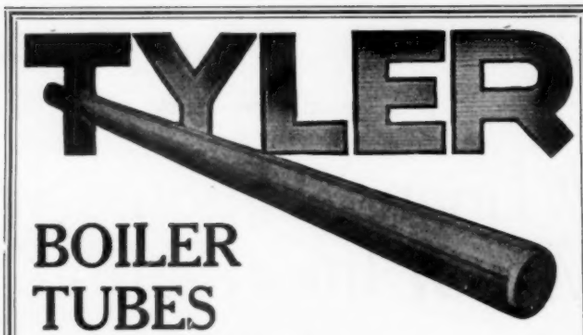
TULSA

Name— Address	Barrels	Value
C. H. Lebow, Tulsa	....	12,325
C. H. Lebow, Tulsa	1,975	2,956
B. D. Lack, Tulsa	....	5,597
Lilami Oil Corporation, Oklahoma City	11,392	9,438
T. E. Laselle, Ada	4,551	6,717
Arthur W. Longworth, Scarsdale, New York	....	2,269
Patty Spence Ludey	4,279	5,777
A. M. London, Independence, Kansas	6,099	8,828
Loffland Brothers Company, Tulsa	8,747	12,428
Lesh and McCall et al, Nacona, Texas	11,738	9,977
Laurel Oil & Gas, Philadelphia	86,224	131,052
Laurel Oil & Gas, Philadelphia	....	†4,512
H. W. McGill, Ardmore	7,825	10,273
Mary Shear McMahan, Tulsa	....	2,948
C. L. McMahan, Tulsa	3,855	6,359
R. M. McMahan, Trustee, Tulsa	3,150	6,292
C. L. McMahan and C. L. McMahan, Inc., Tulsa	....	113,389
C. L. McMahan and C. L. McMahan, Inc., Tulsa	....	†5,375
C. L. McMahan and C. L. McMahan, Inc., Tulsa	9,970	16,444
C. L. McMahan, Incorporated, Tulsa	....	7,510
McMan Oil & Gas, Tulsa	64,829	97,862
McMan Oil & Gas, Tulsa	....	†4,271
I. R. McQueen, Oklahoma City	5,380	8,796
McGraw Oil Company, Tulsa	40,920	54,695
E. M. Mullendore, Trustee, Cleveland	....	42,547
John H. Markham, Tulsa	21,388	31,656
F. D. Misener, Tulsa	8,066	10,548
Meridian Gas Company, Dallas	....	†9,395
Mul-Berry Oil Company, Cushing	....	65,999
Maud Oil & Gas Company, Oklahoma City	1,307	4,992
Maud Oil & Gas Company, Oklahoma City	23,802	32,767
Clint Moore, Estate, Tulsa	15,223	24,375
F. W. Merrick and R. W. Coe, Ardmore	11,325	14,643
F. W. Merrick, Incorporated, Ardmore	....	26,688
Ward S. Merrick, Ardmore	....	5,413
Marileen Oil & Gas Company, Blackwell	6,695	11,213
Malernee Oil Company, Oklahoma City	4,216	7,119
Margay Oil Corporation, Tulsa	1,984	3,285
Margay Oil Corporation, Tulsa	94,666	146,085
Magnolia Petroleum Corporation, Dallas	4,368,314	6,563,136
Magnolia Petroleum Corporation, Dallas	....	†152,535
Magnolia Petroleum Corporation, Dallas	41,951	69,426
Magnolia Petroleum Corporation, Dallas	....	†2,936
Magnolia Petroleum Corporation, Dallas	....	2,634
Magnolia Petroleum Corporation, Dallas	6,383	†10,748
Magnolia Petroleum Corporation, Dallas	....	21,835
Magnolia Petroleum Corporation, Dallas	....	80,888
Minnehoma Oil & Gas Company, Tulsa	265,869	†442,425
Marquette Oil Company, Tulsa	10,030	15,525
Marquette Oil Company, Tulsa	1,570	†7,679
Midco Oil Corporation, Tulsa	12,312	†19,324
Mid-Continent Petroleum Corporation, Tulsa	2,103,157	3,236,401
Mid-Continent Petroleum Corporation, Tulsa	....	†122,952
Mid-Continent Petroleum Corporation, Tulsa	7,648	9,290
Mid-Kansas Oil & Gas Corporation, Findlay, Ohio	666,977	1,030,180
Mid-Kansas Oil & Gas Corporation, Findlay, Ohio	....	†18,773
Mudge Oil Company, Pittsburgh	19,852	15,608
Dudley D. Morgan, Tulsa	....	7,986
E. R. Minshall, Tulsa	3,028	†5,133
Murphy Oil Company of Pennsylvania, Philadelphia	8,865	12,284
Magee and Stipe, Electra, Texas	3,490	5,585
Maud Oil & Gas Company, Oklahoma City	22,608	29,472
F. M. Nelson, New York	3,979	5,372
Nowata Oil & Refining Company, Tulsa	7,845	†11,306
Norwood Oil Company, Tulsa	7,867	10,450
New England Oil & Pipe Line Company, Boston, Massachusetts	5,966	9,264
National Refining Company, Cleveland, Ohio	4,583	†8,905
National Oil & Development Company, Tulsa	10,056	12,965
National Union Oil & Gas Company, Blackwell	5,414	9,288
W. C. Norris, Tulsa	....	11,990
W. C. Newman Corporation, Okmulgee	....	10,403
North Central Texas Oil Company, Inc., New York	....	2,758
Osage Gas Prod. Company, Independence, Kansas	439	†23,317
Ohio Fuel Supply Company, Columbus, Ohio	16,896	27,271
Olean Petroleum Company, Bristow	....	6,864
Ona Oil Company, Blackwell	....	37,542
A. G. Oliphant, Tulsa	7,268	6,560
O'Rourke Oil Company, Bristow	....	11,612
W. G. Obins & H. C. Weber, Bartlesville	1,318	†6,321
Oklahoma Power & Water Company, Sand Springs	....	†13,443
Oklahoma Natural Gas Corporation, Tulsa	....	†29,044
Oklahoma Public Service Corporation, Cedar Rapids, Iowa	8,898	†16,915
Oklahoma Gas Utilities Company, Chickasha	....	†23,426
S. S. Orwig, Wewoka	....	9,210
Ohio Osage Oil Company, Tulsa	6,700	11,713
Pierce Petroleum Corporation, Sand Springs	39,992	59,567
Pierce Petroleum Corporation, Sand Springs	....	†3,451
Geo. L. Pace, Wichita Falls	....	44,426
Panther Oil & Gas Company, Oklahoma City	4,221	6,989
Penn-Ohio Gas Company, Pittsburgh	7,945	11,422
Pyramid Oil Company, Winchester, Kentucky	5,807	7,561
Pennock Oil Corporation, Dallas	26,119	†46,225
Pioneer Petroleum Corporation, Tulsa	12,177	15,779
Peerless Oil Producing Company, Tulsa	8,857	17,254
Phoenix Oil Company, Pittsburgh	25,408	41,814
Phillips Petroleum and W. B. Pine, Okmulgee	13,377	20,795
Phillips Petroleum and W. B. Pine, Okmulgee	....	†560
W. B. Pine, Okmulgee	116,362	185,101
W. B. Pine, Okmulgee	17,682	†33,007
W. B. Pine, Okmulgee	1,055	†7,129
Phillips Petroleum Company, Bartlesville	621,629	1,032,861
Phillips Oil Company, Shelsea	4,685	6,996
Papoose Oil Company and E. H. Daly and J. A. Swindler, Tulsa	2,954	†5,706
Papoose Oil Company, Tulsa	139,933	†226,854
Prairie Oil & Gas Company, Independence, Kansas	4,819,184	7,636,630
Prairie Oil & Gas Company, Independence, Kansas	....	†40,646
Prairie Oil & Gas Company, Independence, Kansas	....	†376,980
Pure Oil Company, Chicago	1,844,462	2,953,135
Pure Oil Company, Chicago	....	†71,798
Pure Oil Company, Chicago	....	†38,642
Prod. and Refg. Corp., Independence, Kansas	298,467	269,855
Prod. and Refg. Corp., Independence Kansas	....	†16,440
Plains Petroleum Company, Inc., Tulsa	7,962	†13,057
Petroleum Company and M. H. Mosier, Tulsa	10,400	†15,285
Petroleum Company, Tulsa	4,360	†6,454
Petroleum Producers Company, Wichita Falls	4,974	8,389
Pawnee Oil Producing Company, Tulsa	4,239	6,691
Paraffine Oil Company, Houston	7,176	9,047
Paragon Oil Company, Tulsa	4,786	†7,761
Plymouth Petroleum Company, Tulsa	8,937	12,773
Geo. C. Pendleton, Receiver, Durant	....	107,547
Perkins and Cullum, Wichita Falls	9,526	13,507
Producers Oil Company, Tulsa	13,015	20,851
Pender and Company, Denton, Texas	....	5,148
E. L. Robinson, Tulsa	3,824	5,217
E. L. Robinson & Gibson-Zahniser Oil Corporation, Tulsa	4,959	†8,942
Riverland Company, Tulsa	10,106	†16,534
Riverside Oil & Refining Company, Tulsa	14,888	22,232
W. R. & W. E. Ramsey and Ramsey Petroleum Corporation, Oklahoma City	108,986	130,575
W. R. & W. E. Ramsey and Ramsey Petroleum Corporation, Oklahoma City	....	†5,226
Reserve Petroleum Corporation, Tulsa	18,014	27,760
Regal Oil & Gas Company, Tulsa	18,986	28,114
Reiter-Foster Oil Corporation, Tulsa	46,385	†73,540
Red Bank Oil Company, Tulsa	12,153	†18,262
Reynolds Oil and Royalty Company, Okmulgee	17,083	28,060
Rockland Oil Company, Ardmore	24,872	29,761
Ryan Consolidated Petroleum Corporation, Tulsa	5,469	8,372
Reliance Oil Company of Oklahoma, Houston	4,582	8,720
Rex Oil & Gas Company, Winchester, Kentucky	5,807	7,561
Thos. C. Roberts, Ardmore	....	7,239
Thos. Ryan, Wetumka	....	7,275
Reed and Harmon, Nowata	4,687	6,454
Frank H. Reed, Neosho, Missouri	....	32,348
Frank and Isabelle Reed, Neosho, Missouri	....	3,881
C. E. Roth, Independence, Kansas	4,811	6,852
Geo. D. Roberts, Tulsa	....	6,808
Jake Rutz Oil Company, Morris	....	11,003
Joe Ray, Chickasha	8,528	11,962
C. H. Reinhart, Shelsea	3,410	5,209
W. S. Randall, Oklahoma City	4,882	5,060
B. H. Robertson, Nowata	4,154	5,949
Simms Oil Company, Dallas, Texas	435,984	†738,783
Simpson-Fell Oil Company, Ardmore	25,333	30,965
Snowden and McSweeney Company, New York	33,002	†45,789
Sinclair Oil & Gas Company, Tulsa	4,311,175	6,754,580
Sinclair Oil & Gas Company, Tulsa	....	†179,468
Sinclair Oil & Gas Company, Tulsa	....	6,479
Sinclair Oil & Gas Company, Tulsa	....	7,679
Sinclair Crude Oil Purchasing Company, Tulsa	15,673	22,745
Sinclair Crude Oil Purchasing Company, Tulsa	3,358	4,874
Sinclair Crude Oil Purchasing Company, Tulsa	9,738	15,010
Sinclair Crude Oil Purchasing Company, Tulsa	....	80,259
Sinclair Crude Oil Purchasing Company, Tulsa	....	117,475
Shasta Oil Company, Wichita Falls	42,274	59,881
Sterling Oil & Gas Company, Tulsa	6,402	9,091
Savoy Oil Company, Tulsa	7,491	9,567
Savoy Oil Company, Tulsa	....	†173
Skelly Oil Company, Tulsa	785,497	1,154,961
Skelly Oil Company, Tulsa	....	†70,591
Skelly Oil Company, Tulsa	2,816	5,652
W. G. Skelly Oil Company, Tulsa	3,336	3,780
Silurian Oil Company, St. Louis	121,472	176,191
Silurian Oil Company, St. Louis	....	†4,647
Slab Oil Company, Ardmore	11,228	†19,600
Shaffer Oil & Refining Company, Tulsa	349,684	558,101
Shaffer Oil & Refining Company, Tulsa	....	†18,921
Shaffer Oil & Refining Company, Tulsa	....	†22,952
T. B. Slick, Clarion, Pennsylvania	391,525	593,522
T. B. Slick, Clarion, Pennsylvania	....	†1,371
Sands Petroleum Corporation, Tulsa	10,247	28,107
Southwest Gas Utilities Corporation of Oklahoma, Ada	146,637	5,400
Sunray Oil Company, Tulsa	29,932	43,165
Sure Oil Corporation, Tulsa	4,043	†6,029
Shoreline Oil & Gas Company, Tulsa	13,325	20,615
Shell Petroleum Corporation, St. Louis	1,935,129	3,033,099
Shell Petroleum Corporation, St. Louis	....	130,849
Shell Petroleum Corporation, St. Louis	4,803	6,691
Selby Oil & Gas Company, Tulsa	110,674	†133,565
Sooner Oil & Gas Company, Sapulpa	.....	5,778
Southwest Production Company, Bristow	....	†18,000

A Great Financial Institution *also Rich in* Information

In The Exchange Banks of Tulsa, customers find stores of information about companies, individuals—and everything relative to credit rating in the oil fields. The discerning eye of this institution, like the beacon that blazes from the tower of its great building every night, follows the activities of the oil industry to the furthermost reaches of the globe. Men who are trained in the business of oil as well as the business of finance handle the problems in petroleum which are entrusted to them, daily. There is no district so remote, in the oil world, that it does not have someone who deals with The Exchange Banks of Tulsa.

Combined Capital, Surplus and Undivided Profits Exceed $10,000,000; Resources Exceed $100,000,000



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Harrisburg Supply Company, Tulsa, Oklahoma.

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Minnehoma Oil and Gas Company

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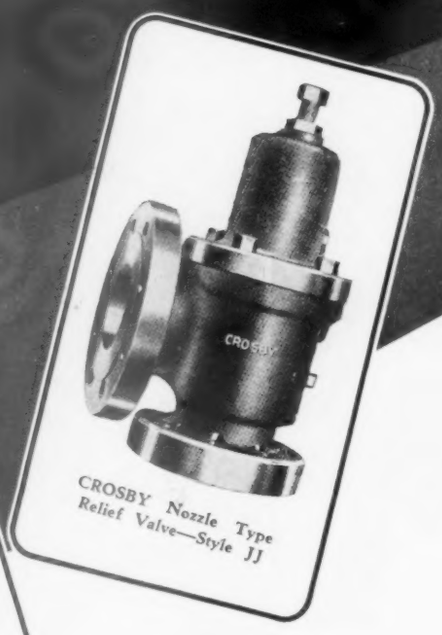
TULSA, OKLAHOMA

Name—	Address	Barrels	Value
J. B. Schermerhorn, Inc.,	Minneapolis, Minn.	60,723	80,606
Schermerhorn-Ardmore Company,	Minneapolis, Minn.	89,469	†102,149
Schermerhorn Oil Company,	Minneapolis, Minn.	3,287	†13,036
Signal Oil Company,	Tulsa	68,172	105,074
Sheridan Oil Company,	Tulsa	13,572	†19,997
Sturm Drilling Company,	Ardmore	14,122	18,891
H. L. Sturm,	Ardmore	11,660	16,248
Marie S. Smith,	Ardmore	....	†310
Marie S. Smith,	Ardmore	7,579	10,460
Will H. Smith,	Ardmore	4,462	†6,006
Chas. R. Smith, Jr.,	Ardmore	6,175	†8,884
Estate of C. R. Smith,	Ardmore	3,571	4,960
Estate of C. R. Smith,	Ardmore	..	†295
Geo. W. Snedden,	Tulsa	31,912	51,168
R. J. St. Germain,	Tulsa	....	3,689
I. S. Simons,	Tulsa	3,616	5,381
Harry Stekoll,	Tulsa	14,031	20,696
C. H. Seger,	Tulsa	12,950	†20,388
J. L. Selby,	Muskogee	....	5,070
Robt. C. Sharp,	Tulsa	4,437	7,022
Sidwell Drilling Company,	Sapulpa	4,066	6,163
Sampson Oil Company,	Tulsa	4,516	†6,536
C. B. Shaffer,	Chicago, Ill.	34,024	†42,870
Skelton-Moore Oil Company,	Bartlesville	4,949	6,915
G. J. Smith,	Tulsa	....	12,134
Superior Oil Corporation,	Tulsa	207,847	315,151
Superior Oil Corporation,	Tulsa	....	†23,301
James A. Swindler,	Muskogee	....	8,512
Transcontinental Oil Company,	Tulsa	89,926	127,087
Transcontinental Oil Company,	Tulsa	....	†14,383
Transcontinental Oil Company,	Tulsa	....	1,642
Twin States Oil Company,	Tulsa	620,798	†743,347
Twin States Oil Company,	Tulsa	....	†37,437
Tidal Oil Company,	Tulsa	609,407	894,117
Tidal Oil Company,	Tulsa	....	†30,927
Tidal Oil Company,	Tulsa	8,491	10,633
Tidal Oil Company,	Tulsa	8,387	10,483
Texola Oil Company	Oklahoma City	9,107	14,312
Texas Company,	Tulsa	1,033,595	1,533,730
Texas Company,	Tulsa	....	†130,266
Thlocco Oil Company,	Tulsa	9,425	16,017
Turman Oil Company,	Tulsa	5,297	7,623
Tiger Mountain Oil Company,	Tulsa	4,276	6,056
C. G. Tibbens, (2 quarters of 1929)	Tulsa	62,004	79,858
A. W. Towes,	Crisfield, Maryland	....	4,985
N. T. Gilbert and Joe. G. Glass		153,168	†265,943
H. H. Taylor,	Tulsa	....	69,780
W. L. Umburn,	Weleetka	....	16,454
Gillia Umburn,	Weleetka	....	10,720
United Eight Oil Trust		8,082	12,498
Utility Production Corporation,	Tulsa	....	31,876
Valley Osage Oil Company,	Tulsa	20,268	27,700
Vacuum Oil Company,	Houston	100,909	174,057
Vennex Oil and Keystone Production Company,	Wichita Falls	91,765	119,513
Viersen Oil & Gas Company,	Okmulgee	768	†1,358
Sam K. Viersen,	Okmulgee	1,376	†137
Voyles, R. E.,	Pawhuska	....	5,535
Vernon Oil and Gas,	Blackwell	6,452	10,684
Winona Oil Company of Delaware,	Tulsa	11,360	19,885
Winona Oil Company of Delaware,	Tulsa	8,596	12,124
Winona Oil Company of Delaware,	Tulsa	18,575	26,489
Warner-Caldwell Oil Company, Titusville, Pennsylvania		24,322	32,372
Warner-Caldwell Oil Company, Titusville, Pennsylvania		....	†1,695
Wiser Oil Company,	Sisterville, West Virginia	93,297	123,310
Wittmer Oil & Gas Properties,	Pittsburgh	4,139	7,051
Wolverine Petroleum Corporation,	St. Louis	173,289	235,771
Wolverine Petroleum Corporation,	St. Louis	....	†17,623
H. F. Wilcox Oil & Gas Company,	Tulsa	291,949	435,098
H. F. Wilcox Oil & Gas Company,	Tulsa	.....	†13,968
H. F. Wilcox Oil & Gas Company,	Tulsa	....	4,174
Howard J. Whitehill and H. C. Weible,	Tulsa	11,342	15,560
Whitehill Oil Corporation,	Tulsa	14,281	18,888
Winkler and McQueen, Inc.,	Duncan	14,677	13,780
J. E. Wallace,	Okmulgee	....	18,396
Margaret S. Weeks,	Ardmore	6,175	8,886
Wigton and Long Company,	Okmulgee	....	4,900
Nell Evans and A. T. Watson,	Bristow	....	3,412
Walsh Oil Company,	Tulsa	7,468	5,543
Wrightsman Petroleum Company,	Tulsa	95,180	160,720
Western Oklahoma Gas Company,	Fort Smith, Arkansas	....	†5,264
Westland Oil Corporation,	Tulsa	72,071	†113,869
Wellsville Oil Company,	Wellsville, New York	10,599	14,344
L. H. Wentz Oil Div.,	Ponca City	140,178	†249,106
White Eagle Oil & Refining Company,	Wichita, Kansas	32,160	†52,996
J. H. Wright, Estate,	Sapulpa	13,659	21,330
Wood-Gilbert-Wood Syndicate No. 1,	Oklahoma City	....	13,349
Wood Oil Company,	Tulsa	....	10,980
Westheimer and Daube,	Ardmore	165,996	235,730
Westheimer and Daube,	Ardmore	....	†4,384
Westerly Oil Company,	Bartlesville	4,357	6,721
Watchorn Oil & Gas Company,	Oklahoma City	9,183	12,458
L. W. Zimmerman,	Chicago	21,396	24,576

CROSBY PRODUCTS

CROSBY Pop Safety Valve Style HO.

CROSBY Compound Pressure and Vacuum Gage—Style AAX



CROSBY Nozzle Type Relief Valve—Style JJ

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CROSBY Nozzle Type Safety and Relief Valves and CROSBY Screwed Tube Pressure Gages are made by a company which utilizes a wealth of experience in designing and building equipment of this type. As a result, CROSBY Products are offered in styles to fit every class and condition of service, and unfailingly operate with uncommon efficiency and economy.

WESTCOTT & GREIS Service includes the recommendations of engineers who are specialists in the measurement and control of liquids and gases, and in petroleum industry conservation and safety. This service enables users of CROSBY Products to select equipment which exactly suits the particular function for which it is intended.

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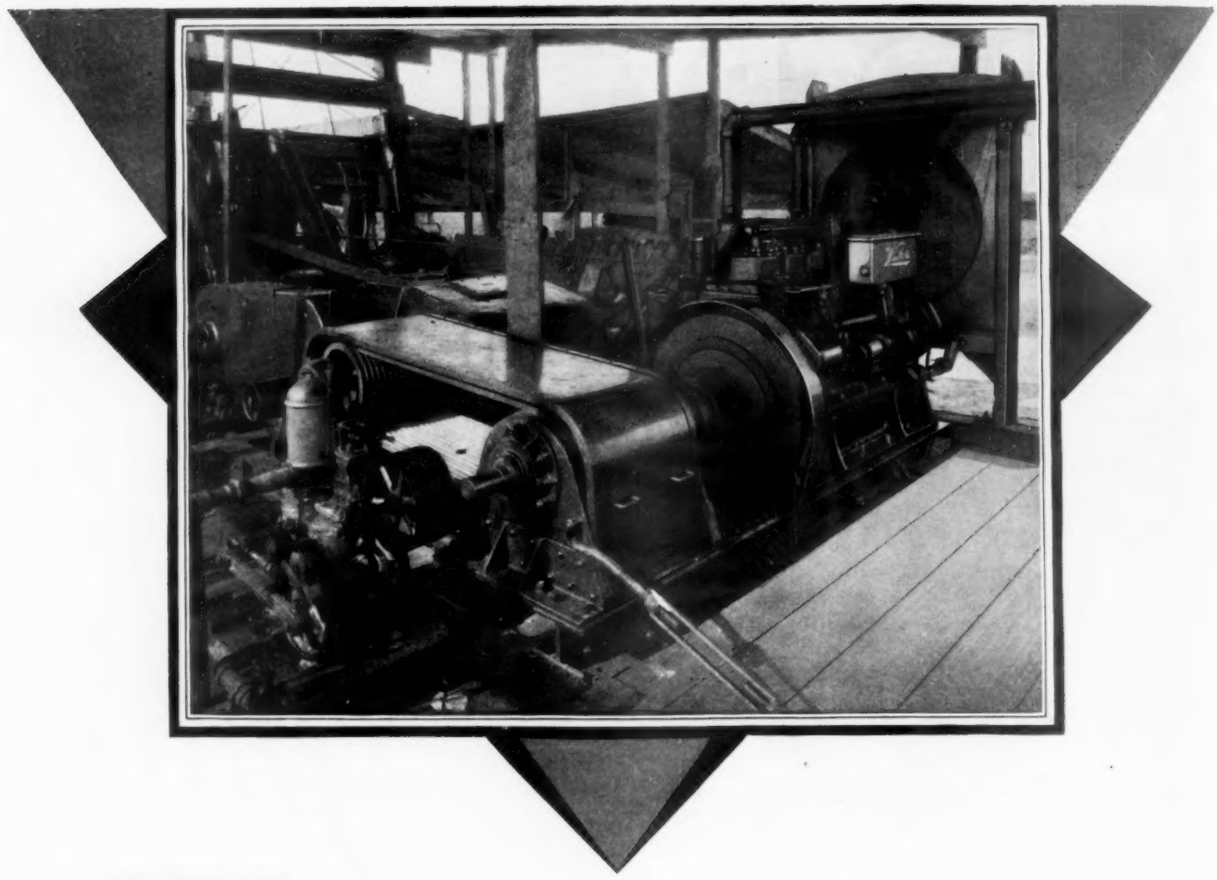

275 hp. with gasoline or natural gas

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THEY TAKE BETTER CARE OF THEMSELVES

Actual demonstrations in the field . . . with the simplicity and flexibility of steam as the standard of comparison . . . have more than proved that the Waukesha Great Six is an oil man's engine.

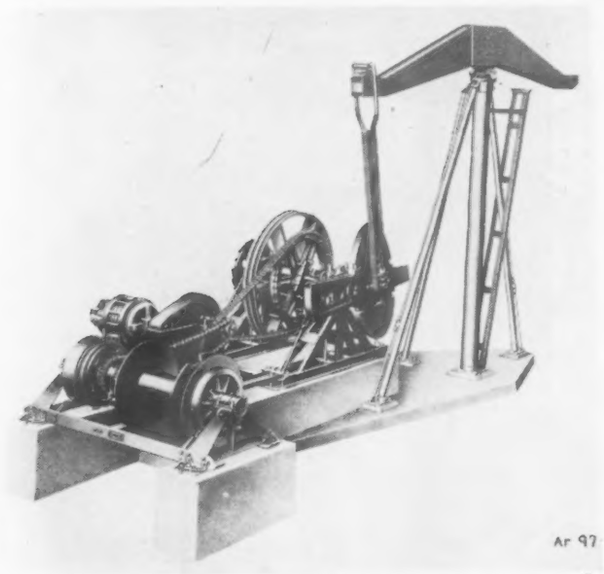
With its 275 horsepower . . . and more . . . the Great Six drives a mud-hog pump, operates the rotary and draw works, or runs cable tools with equal ease. And it has a great reserve of power *always ready* for the tough pull. Its ability to use natural gas or gasoline fuels equally well . . . together with the reliability and long life which have been built into it . . . make the Waukesha Great Six *a good investment* for drilling duty.

Interesting details are given in Bulletin No. 775. Write *Oil Field Equipment Division, Waukesha Motor Company, Waukesha, Wisconsin. Offices: New York, 8 West 40th Street; San Francisco, 7 Front Street. In the Oil Fields: C. F. Camp Co., Tulsa; Portable Rig Co., Houston; Bradford Supply Co., Bradford, Pa.*

98A

WAUKESHA ENGINES

NEW EQUIPMENT, CATALOGS, BULLETINS, BOOKS



Emsco Drilling and Pumping Unit

Drilling and Pumping Unit

EMSCO DERRICK & EQUIPMENT COMPANY

Emsco Derrick & Equipment Company's Bulletin No. 81, issued October 5, describes and illustrates the new Emsco electric drilling and pumping unit. A copy of this bulletin is available by writing the company at 6701 South Alameda Street, Los Angeles.

This unit, which is illustrated here, is the outgrowth of the successful unit designed several years ago to use a chain drive from a power unit to a band wheel and sand reel. It was found that the large diameter band wheel could be eliminated, leaving more room to bring the various units closer together. The reduction gear was thereafter mounted between the machinery support assembly and the sand reel.

The new unit incorporated a tug rim to which the sprocket was bolted. Later this arrangement was changed and the sprocket was made especially heavy and the tug rim bolted to the sprocket. Then the Type "D" machinery supports were introduced, making the jack posts independent from the Sampson posts and the foundation for the sand reel. By mounting the reduction gear on a sliding base between the sand reel and the machinery supports less chain was required and adjustment of the drives could be better maintained.

The present Emsco electric drilling and pumping unit can be furnished with steel jack post assembly with the two jack posts mounted on a skid type base. It can be moved as a complete unit and transported by truck.

There are no vertical chain drives on the unit. A wide range of pumping speeds are maintained by changing the sprockets on the reduction gear shaft. The unit as shown includes the crank shaft with a 42-tooth clutch sprocket, 94-tooth double roller chain steel sprocket, split type tug rim, fabricated jack posts, Emsco Type "BC" reduction gear mounted on skids, No. "D-478" diamond roller chain and Type "C" pitman.

The unit is for motors ranging in sizes from 15/35 to 25/65 horsepower with a reduction ratio of 4½ to 1 or 5¾ to 1. Ranges in weight are from 15,809 to 16,292 pounds.

The chain is enclosed in an oil-tight semi-steel case and the chain runs in an oil bath.

Combination Trap-Bleeder-Valve

PEERLESS SUPPLY COMPANY

The McKissick sand trap, tubing bleeder and standing valve manufactured by the Peerless Supply Company, Tulsa, and sold through leading supply companies, offers three methods combined in a single tool, and is designed to elimiate excessive tubing pulling in its work. Its purpose is to settle floating sand and thereby prolong the life of the cups.

The tubing bleeder is screwed into the bottom end of the working barrel and the sand trap is attached to the bottom of the tubing bleeder.

When a working barrel is being used with the standing valve seat in the collar, the bottom collar is removed and a top collar of the same make of working barrel is substituted. This is to permit the tripping weight to contact with the top of the tripping cage and sunseat the ball.

To change the ball and seat the body nipple is supposed to be removed and the seat cap unscrewed.

This tool is manufactured with standard oversized balls and seats up to three-inch size, the two-inch being furnished with 2¼-inch standard ball and seat, the 2½-inch being furnished with 2¾-inch, and the three-inch being furnished with 2¾-inch standard ball and seat.

Make and Break Rotary

INTERNATIONAL DERRICK & EQUIPMENT CO.

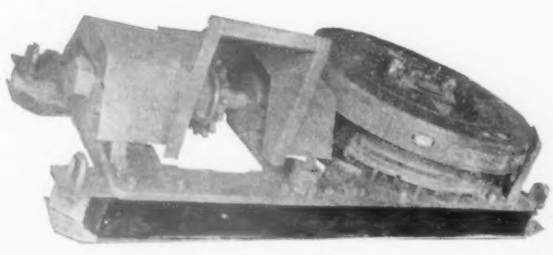
The Boykin Greyhound Division of The International Derrick & Equipment Company has just introduced a new 27-inch superior make and break rotary.

The new 27-inch superior rotary is the embodiment of many improvements in rotary construction. Being of the Boykin make-and-break type it is changed from a make-up position to the break-out position by lifting the spider by the catline until the teeth are disengaged. Slides are then moved out and spider lowered so that it becomes part of the table and revolves with it.

The main table, spider, table and bearing box base, pinion and sprocket are made of chrome nickel steel, for long life. The table revolves on pack hardened cone sor extra hard steel ball bearings, either of which is optional. The 3-15/16-inch pinion shaft rotates on four-inch Hyatt roller bearings. The steel sprocket on this shaft is adjustable 12 inches, for proper alignment with the draw works.

The main table has a diameter of 57 inches and is capable of receiving a 27-inch fish-tail or rock bit. The entire rotary is mounted on eight-inch H beam steel skids 10 feet in length with U bolts at each end to facilitate handling.

The bearing boxes, table hold-down and cone races are provided with connections for Alemite lubrication. The cone races are encased. A heavy gauged steel sheeting hood completely covers the bearing boxes and serves as a guard



New Boykin Rotary

for the pinion sprocket. These rotaries can be equipped with the Boykin Patented Grief Stem Drive.

A new pamphlet thoroughly describing this new four-speed reduction gear draw works will be mailed upon request to The International Derrick & Equipment Company at one of the main offices in Columbus, Ohio, or Los Angeles, or to any of their sales offices.

Gardner-Denver Compressor

Compressor

GARDNER-DENVER COMPANY

A new two stage air compressor of the vertical tandem type which is to be known as the A. B. A., has been placed on the market by the Gardner-Denver Company. It is manufactured in the plant at Quincy, Illinois.

The new compressor weighs only 350 pounds and is designed to produce a continuous flow of 24 cubic feet of air per minute at pressures up to 500 pounds. The low pressure head, high pressure cylinder and inter-cooler are combined in a single casting. This simplified construction reduces the number of parts to the minimum to eliminate the system of jacket and air piping. Main bearings are of the Hyatt roller type. Lubrication is positive and automatic, being effected by a combination oil pump and splash system.

The "ABA" compressor is made with pulley for "V" belt drive or for direct connection or electric motor, steam or gas engine.

New Sucker Rod Wrench

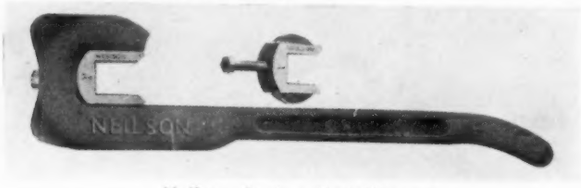
A. H. NEILSON MANUFACTURING COMPANY

The A. H. Neilson Manufacturing Company, Tulsa, has recently introduced a new sucker rod wrench, a wrench made in two pieces, the handle or body, and the interchangeable steel liner.

The accompanying illustration shows the economical principle in this new wrench. The body is made of electric steel and has been reinforced to give greater strength and ruggedness. The machined steel plate has been hardned in order to provide longer wear and to prevent wearing round.

An outstanding feature of this wrench is the fact that additional plates may be secured for insertion in place of the old ones, or for different size rods, thereby eliminating a new set of wrenches.

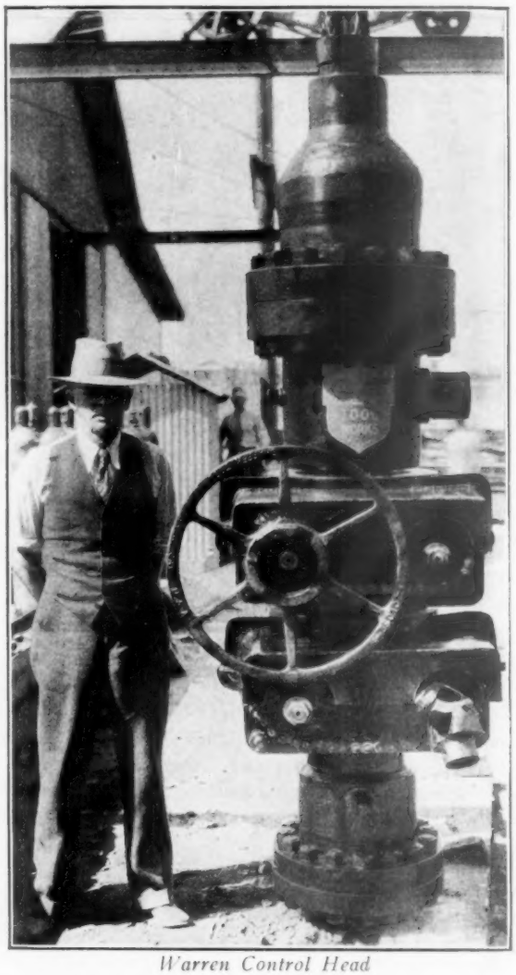
Complete details on this new wrench will be furnished by the manufacturer upon request.



Neilson Sucker Rod Wrench

Warren Control Head

SHAFFER TOOL WORKS



Warren Control Head

Shaffer Tool Works, Brea, California, is using solid steel flanges four inches thick with bolts two inches in diameter and gaskets of special metallic alloys in making the Warren control heads and other high pressure fittings to meet 5000-pound pressure requirements.

The size and construction of some of these fittings may be estimated by the accompanying illustration. This shows the cellar assembly made by the Shaffer Tool Works for use at Kettleman Hills field, with W. D. Shaffer, president, standing alongside.

The assembly includes two Shaffer control gates, one fitted close around the drill pipe, and the other to function as a drilling valve, closing open hole. The design is compact, making the hook-up to take no more cellar space than the average type valves.

Each set-up of this size, nine-inch, weighs approximately four tons.

New Oil Field Belt

VICTOR BALATA AND TEXTILE BELTING COMPANY

A new type of solid-woven belting, designed to eliminate belt troubles peculiar to oil field work, is a new product of the Victor Balata & Textile Belting Company of Easton, Pennsylvania, and is sold under the trade name "Penntex."

The manufacturers state that laboratory tests of "Penntex" show an ultimate strength considerably exceeding A. P. I. minimum requirements. Another feature is an in-

1/3 EXTRA STRENGTH

SEAMLESS, flawless steel, free from welded weakness and highly resistant to corrosion—forge-finish grain structure and the absence of pin-holes or other weak spots—these qualities give Pittsburgh Seamless Line Pipe the additional strength, right down the line, that assures better service and lower maintenance costs. Because of its longer lengths (up to 45 feet) it reduces laying costs as well.

Write for the complete facts concerning the extra strength and extra service of Pittsburgh Seamless.

From Ore to Finished Pipe or Tube —Pittsburgh Seamless is the product of one Company's Resources and Skill . . . .

Pittsburgh Steel Products Co.

DIVISION OF
Pittsburgh Steel Co.

Pittsburgh Seamless Line Pipe—Casing—Drill Pipe—Oil Well Tubing

PITTSBURGH NEW YORK DETROIT CHICAGO ST. LOUIS TULSA HOUSTON

2911

crease of 15 to 20 per cent. in weight, particularly important in the slow, heavy-duty drives required for drilling.

Despite its strength and weight, "Penntex" is designed to be unusually flexible. The single weight operates successfully over three-inch and larger pulleys; double weight, eight-inch and larger; and the triple operates over pulleys of 14-inch and larger diameters.

Being solid woven, "Penntex" is constructed to eliminate "bootlegging" (ply-separation), to be free from surface cross-cracking, to be waterproofed, and to not become unduly hard in cold weather.

The manufacturers of this belting have developed special semi-automatic equipment for turning it out on a quantity-production basis. The same manufacturers also sell belt accessories, including stretchers, punches, duraluminum belt clamps, and belt dressing.

More information on this belt is available by writing the company at the above address and requesting the four-page folder recently published on the solid interwoven "Penntex" belting for oil fields.

HILL LEAVES PITTSBURGH EQUITABLE

J. H. Hill, district manager for Pittsburgh Equitable Meter Company, Los Angeles, for the past 15 years, has resigned his position to devote his entire time to private business interests after 20 years of service with the company. Walter H. Davis, who, for the past 15 years has served the company in Missouri and Kansas, has been named to succeed Mr. Hill, effective December 1.

NATIONAL'S NEW BUILDING

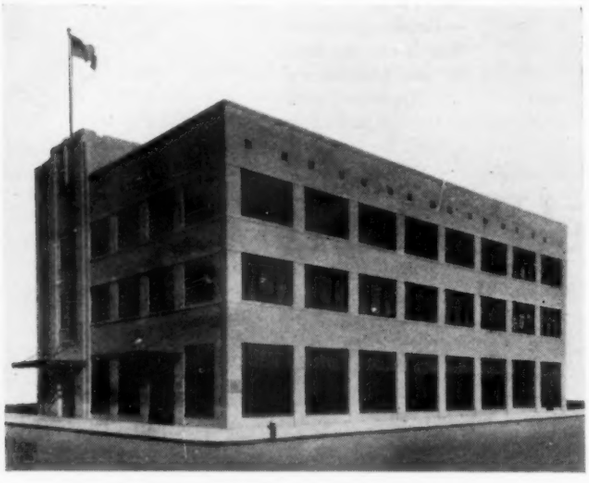
A new combined division office building and warehouse has just been completed by National Supply Companies at Midwest at Archer and Frankfort streets in Tulsa.

The building is three stories high with a basement, brick and concrete construction. Along Archer street it extends 75 feet, and the Frankfort street side is 124 feet long.

The office force for the Oklahoma division will be housed in the building. The second floor will be devoted to the executive, sales and engineering staffs, with the credit, auditing and accounting departments on the third floor. The main floor is a display room. A space 200 x 140 feet has been set aside for the parking of automobiles for customers and employees.

In the display room a 10-ton crane is to facilitate the handling of machinery for display purposes. The room has 16-foot ceiling and is 14 x 124 feet.

The National Supply Companies have two warehouses on the site at this time, one 50 x 120 feet and the other 40 x 96 feet which is used for a pipe and machine shop.



New National Supply Company Building at Tulsa

HOSE BULLETIN

Quaker City Rubber Company, Philadelphia, is now distributing a 160-page book, which covers in detail the products manufactured by the company. Descriptions of products are accompanied by illustrations, and price tables and specification tables offer a complete outline of items.

A sizeable section of this book is devoted to hose manufactured by Quaker City Rubber Company, including rotary, steam, oil conducting, ebonite boiler washout, gasoline and air drill hose.

A copy of the book is available upon request to the company.

SPECIALTY CATALOG

A new 36-page catalog has just been compiled and printed for the MacClatchie Manufacturing Company, Compton, California. It contains data on all the specialties manufactured and distributed by the company.

Included in the catalog are the new geared brake for drawworks, flow nipple, valves, the cementing combination, made up of cement head, stop cocks and unions, valve seat puller, pump liner puller, rotary underreamer, and automatic safety cathead. Other leaflets will be sent from time to time to those receiving the catalog.

Lloyd Deffenbaugh, assistant sales manager of the Alco Oil Tool Company, Compton, California, recently departed for Houston, Texas, where he will make headquarters until early next year.

G. M. Stewart, of the export department of the W-K-M Company, 74 Trinity Place, Nek York, spent the past week at the company's headquarters prior to sailing SCHRDLform the company's Houston Headquarters prior to sailing for Trinidad.

S. H. Atkinson, assistant general manager of the MacClatchie Manufacturing Company, Compton, California, is now in the Mid-Continent, visiting the various fields. Atkinson will accompany A. O. Nelson, Mid-Continent representative of the company, on an investigation of conditions in Oklahoma, Texas and Louisiana.

Sullivan Machinery Company, 400 North Michigan Avenue, Chicago, has recently completed construction of an addition to its Michigan City, Indiana, plant. Machine tool equipment at both this and the Claremont, New Hampshire, has been increased during the past year, and work is now under way for expansion programs to increase production of the company.

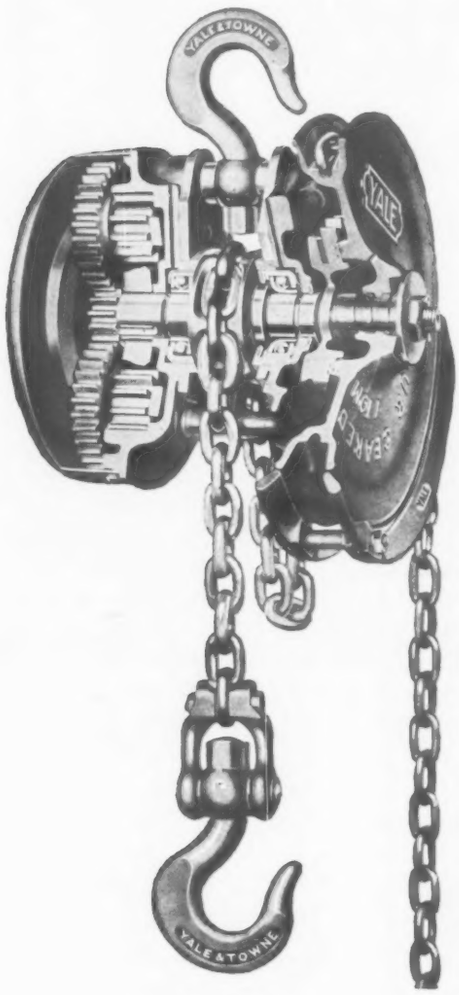
A new factory has just been completed by the Vapor Recovery Systems Company in Compton, California. The factory was designed exclusively for the manufacture of vapor recovery tank systems under the direction of Frank V. Long, president, who, for several years, was an executive with the Brooks Engineering Corporation. The company manufactures and installs the Varec tank equipment, including valve, regulator valves, fittings, tank gauges and other fittings required in the efficient recovery of vapors and in their proper distribution. Offices were formerly in the Board of Trade Building, Los Angeles, but with the completion of the new plant in Compton, the executive offices were removed to the plant location.

The factory is located at 2820 North Alameda Street, Compton.

The Vulrox Corporation has transferred the petroleum industries division formerly located in the Kennedy Building, Tulsa, to the home office, 2600 North Broadway, St Louis. Robert Burnett, associate engineer, has resigned his position with this company.

TRADE **YALE** MARK

BALL-BEARING SPUR-GEARED CHAIN BLOCKS



Greatest speed... safety... efficiency

Yale Chain Blocks Recognized by Industry for over 50 years as the best that Quality and Skill can build.

Sold by the leading Mill Supply Jobbers

THE YALE & TOWNE MFG. CO., STAMFORD, CONN., U. S. A.

YALE **Hoisting and Conveying Systems**

YALE MARKED IS YALE MADE

4 years ago

..they told us..... "it couldn't be done"

Remember NO·CO·RO is..... obtainable only in the products of Norris Bros.

Well meaning competitors told us, four years ago, that we were making a mistake. Producers, they said, were more interested in price than in extra quality pumping equipment.

But we went ahead nevertheless. Already known as a super-alloy, NO-CO-RO was so much further improved that we were able to guarantee NO-CO-RO Balls and Seats to outlast any two ordinary balls and seats, and the DROP and Seat to out-perform even the NO-CO-RO Ball and Seat.

Results fully justified our actions. Today producers are *demanding* quality pumping equipment. More than ever before, they realize that the best is only good enough when less frequent pulling jobs and smaller production losses are at stake.

Today, as four years ago, there is only one NO-CO-RO. This veteran alloy, year in and year out, proves its "metal" in the grueling test of bad sand and acid conditions. Its steadfast refusal to chip, pit or corrode, has saved hundreds of thousands in pulling expense, valve-check replacements and lost production.

The best way to test the properties of NO-CO-RO is to try it out in your worst service. If it doesn't outlast and out-perform any pumping equipment you have ever used before, there is no obligation to pay for it.

NORRIS BROTHERS, Inc.

ROBINSON, ILLINOIS

Owensboro, Ky. Fort Worth, Texas, Tulsa, Okla.

Squeaks from the Bull Wheel

"I'm leaving Saturday night," said the boarder. "Such dirty towels—a rim around the bathtub, and never any soap."

"Well," said the landlady, "You've a tongue in your head, haven't you?"

"Yes," he admitted; "but what do you think I am, a cat?"

"What's the matter, Rastus? You seem as mad as a wet hen."

"Well, why shouldn't I be? The doctor what operated me foh pendicitus went and sewed me up wif white thread."

"I say, D'Orsay, have you ever heard that joke about the guide in Rome who showed some travelers two skulls of St. Paul, one as a boy and the other as a man."

"Aw, deah boy—no—aw, let me hear it."

"How is it he never takes you to the theatre any more?"

"Well, one evening it rained and we sat in the parlor."

Then you say this man was drunk.

I do not. I simply said that he sat in his car for three hours in front of an excavation waiting for the light to turn green.

American (at Scottish football game) —Why don't they start? They ought to have kicked off half an hour ago.

Scotsman — Aye, something serious has happened.

Not a player taken off ill?

No, worse than that; they canna find the penny they tossed up wi'.

"Who is that man?"

"He is a monumental liar."

"A monumental liar?"

"Yes; he carves the stuff that goes on tombstones."

A young man who was trust officer in a financial institution was asked to make a talk at the meeting of a business and professional women's club. After his talk, one of the women made a short address, stating that 90 per cent of the money spent was spent by the women of the world.

The young man rose to his feet when she asked if there were any questions, and said: "Am I to understand that statistics show that my wife spends 90 per cent of my salary, and that I spend 10 per cent?"

He was answered in the affirmative.

"Then I am going right home and talk with her about that. She's holding out on me, and I shall demand my right to spend that 10 per cent."

Dad, you are a lucky man.

How is that?

You won't have to buy me any school books this year. I have been left in the same class.

"Everything depends on the point of view."

Senator Copeland, at a dinner in New York, was comparing republicanism and communism.

"It's like the bank robber," he went on, "who laid his little son across his knee and swished the air with the trunk strap.

"'Remember, kid,' he said 'it ain't for stealin' the jam that you're goin' to git this—it's for the fool way you left your fingerprints around."

Flapper newlywed to husband: "Dear, my heart is set on one of those new Packard coupes."

Husband: "Well, just keep your heart set on it, because that's the only part of you that will ever set on it."

"MEMORIES"

By A. L. Smith (of Ohio)

Oft times I take a memory trip
Back through the flight of years
To oil field days, events and scenes—
Some most too deep for tears.

A panorama of the years
Goes passing swiftly by—
Of fields and wells that once I knew,
For a son of the derrick am I.

I greet once more the drillers
And the toolies that I knew
In different states and far off fields,
And the good old days renew.

And work once more in the derrick,
As I did in days gone by,
At the boiler, the engine and forge,
On tour again am I.

I hear again the ring of tools
As they echo back each blow,
At work in the rock-bound innards
Of the earth far down below.

And huddled by the derrick stove,—
Just Driller Bill and I,—
We eat again from the old bait can
Of the frozen ham and pie.

Oh the beauty of the night time—
The stars, the storms, the moon—
That peaceful stilly period
When God and man commune.

The "dog house" by the boiler,
A grimy structure low,
Whose mention brings back memories
That only a toolie can know.

Oh, I know that the life is humble,
But it matters not to me;
For the Master Himself once wrought
In the shop by Gallilee.

And no potentate, or ruler,
Or princely son of peers,
Could tempt me to forsake
The memory of those years.

Then I picture that final tour,
When life is ebbing low,
And I pass to that peaceful valley,
Where the sons of men must go.

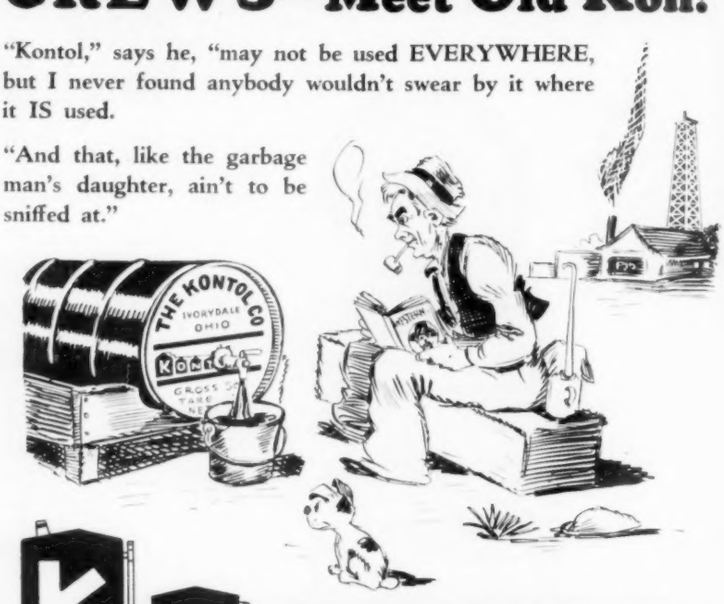
I will steal from out the tomb,
When night and the winds are low,
And work once more on the derrick floor,
In the "yellow dogs" flickering glow.

So it matters not the time nor place
When death shall bid me go,
Just so I sleep where my comrades are,
And there's derricks row on row.

CREWS—Meet Old Kon!

"Kontol," says he, "may not be used EVERYWHERE, but I never found anybody wouldn't swear by it where it IS used.

"And that, like the garbage man's daughter, ain't to be sniffed at."



KONTOL

THE KONTOL CO.

10th Floor Santa Fe Bldg. Dallas, Texas

Less fishing— *more drilling*

"Let 'er go"—no worry now about tough rock—we have a bit made from ASCO Well Bit Tool Steel. There is no reason to slow up.

A broken bit may mean expensive fishing—loss of time—labor and money.

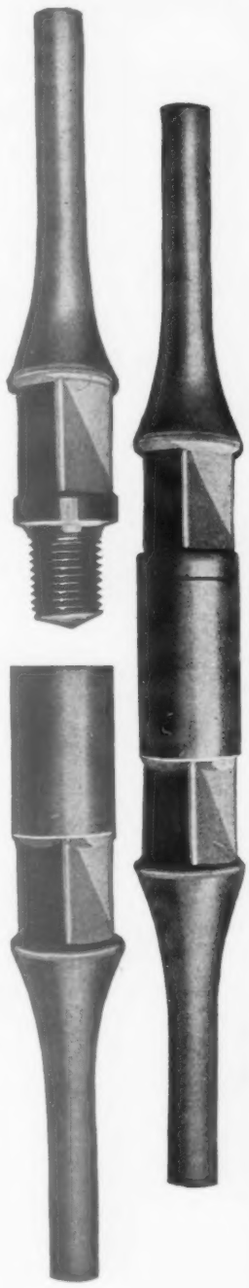
But these problems are made less costly with ASCO Well Bit Tool Steel.

A bit made from ASCO Well Bit Tool Steel will challenge the toughest of rock formations—eat its way through by steady drilling.

Where operating conditions are most severe, ASCO Well Bit Tool Steel is the most dependable.

THE ANDREWS STEEL CO.
NEWPORT ASCO KENTUCKY

BUFFALO SUCKER RODS
Give Unexcelled Service



Buffalo Sucker Rods have been so successful that they have established a reputation for service unexcelled by any other oil field equipment. This rod was developed through close co-operation with oil producers — developed to meet a specific need—and it does.

ORDER BUFFALO RODS NOW

Whether you are drilling in Venezuela, Pennsylvania or Texas, Buffalo Rods will do the job well, with fewer shut-downs and breaks.

Write for Catalogue

BUFFALO BOLT COMPANY
NORTH TONAWANDA, N. Y.

SALES OFFICES

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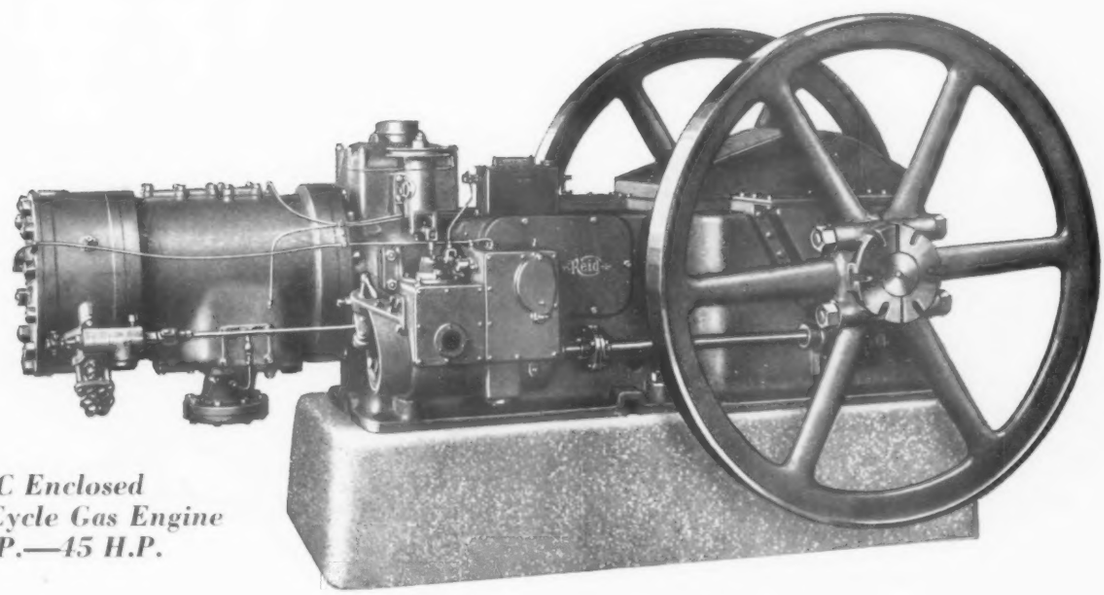
Repeat Orders from One Company This Year

During the period that Reid Type C Enclosed Two Cycle Gas Engines have been in oilfield service, they have been thoroughly tested under the very severe working conditions imposed by heavy-duty reverse work.

The fact that one producing company has already installed 96 Type C Engines so far this year, and that other major producers have standardized on them for beam-well pumping, is conclusive proof that they have more than filled the requirements set by an exacting industry.



Type C Enclosed
Two Cycle Gas Engine
40 H.P.—45 H.P.

JOSEPH REID GAS ENGINE COMPANY
OIL CITY, PENNSYLVANIA, U. S. A.

BRANCHES—Marietta, Newark, and Logan, Ohio; Charleston, W. Va.; S. R. Shoup, 724 Board of Trade Building, Los Angeles, California.

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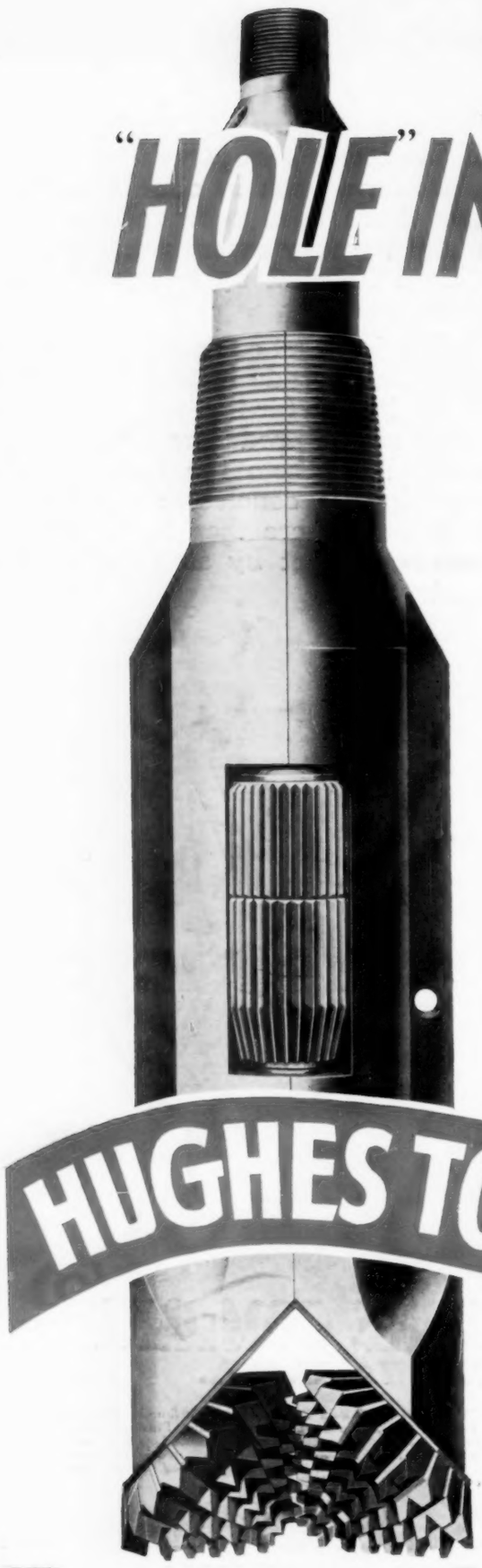

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